User Guide

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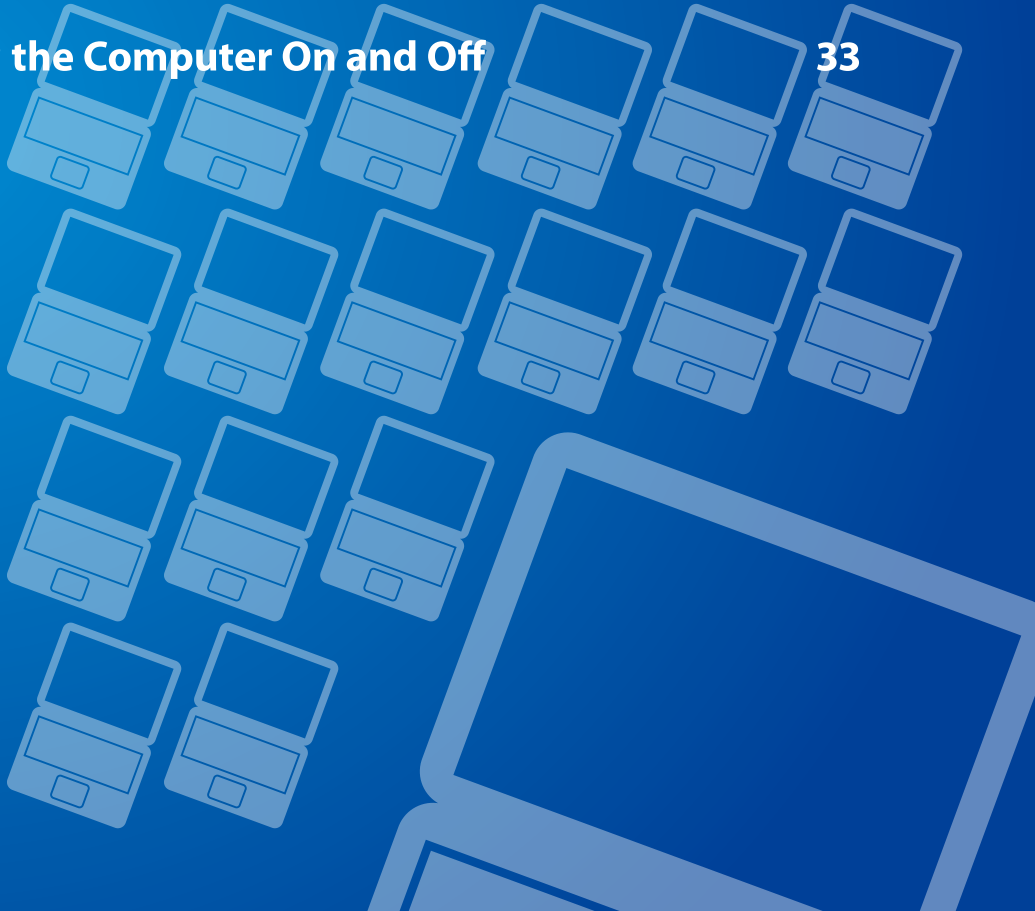

Before You Start

Before reading the User Guide, first check the following information.

- Optional items, some devices and software referred to in the User Guide may not be provided and/or changed by upgrade.
  Note that the computer environment referred in the User Guide may not be the same as your own environment.
- The pictures used for the cover and the main body in the User Manual are those of the representative model of each series and may differ from the actual appearance of the product.
- This guide decribes procedures for using both the mouse and the touchpad.
- This manual has been written for the Windows 8 operating system. The descriptions and figures may differ depending on the installed operating system.
- The User guide supplied with this computer may vary depending on your model.

Using the software

- From the **Start Screen**, right-click any area and select **All apps** ☰ in the bottom right corner.
  Then, click a desired program.
  Or you can simply launch **Quick Starter** to do the same.
- You can install **Quick Starter** from **SW Update**.

Before You Start

Safety Precaution Notations

Icon	Notation	Description
⚠	Warning	Failure to follow instructions marked with this symbol, may cause personal injury and or fatality.
⚠	Caution	Failure to follow instructions marked with this symbol, may cause slight injury to yourself or damage your property.

Text Notations

Icon	Notation	Description
❗	Caution	Content included in this section includes information required about the function.
📝	Note	Content included in this section includes helpful information to use the function.

Copyright

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Samsung Electronics Co., Ltd. owns the copyright of this manual.

No part of this manual may be reproduced or transmitted in any form or by any means, electronic or mechanical, without the consent of Samsung Electronics Co., Ltd.

The information in this document is subject to change without notice due to improving the performance of the product.

Samsung Electronics shall not be liable for any data loss. Please take care to avoid losing any important data and backup your data to prevent any such data loss.

OS and Software Support

If you change the product's factory OS (Operating System) to another OS or if you install software which is not supported by the product's original factory OS, you will not receive any technical support, product exchange or refund. And a fee will be charged when requesting a service.

Please use your computer with the original factory OS. If you install an OS other than the factory OS, data may be deleted or the computer may not start.

About the Product Capacity Representation Standard

About the capacity representation of the storage

The capacity of the storage device (HDD, SSD) of the manufacturer is calculated assuming that 1KB=1,000 Bytes.

However, the operating system (Windows) calculates the storage device capacity assuming that 1KB=1,024 Bytes, and therefore the capacity representation of the HDD in Windows is smaller than the actual capacity due to the difference in capacity calculation.
(E.g. For a 80GB HDD, Windows represents the capacity as 74.5GB, 80x1,000x1,000x1,000 byte/(1,024x1,024x1,024)byte = 74.505GB)

In addition, the capacity representation in Windows may be even smaller because some programs such as Recovery may reside in a hidden area of the HDD.

About Memory Capacity Representation

The memory capacity reported in Windows is less than the actual capacity of memory.

This is because BIOS or a video adapter uses a portion of memory or claims it for further use.
(E.g. For 1GB(=1,024MB) memory installed, Windows may report the capacity as 1,022MB or less)

Safety Precautions

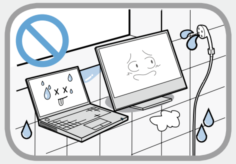
For your security and to prevent damage, please read the following safety instructions carefully.

Since this is commonly applied to Samsung Computers, some pictures may differ from actual products.

Warning

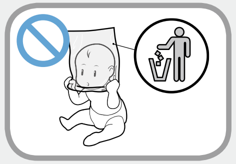
Failure to follow instructions marked with this symbol may cause personal injury and even fatality.

Installation Related



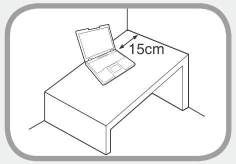
Do not install the product in places exposed to humidity such as a bathrooms.

There is a danger of electric shock. Use the product within the operating conditions specified in the Manufacturers User Guide.



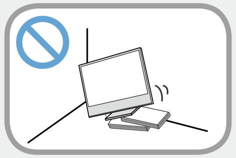
Keep the plastic bags out of the reach of children.

There is a danger of suffocation.



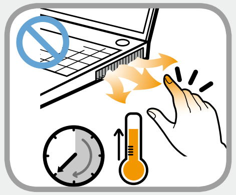
Keep a distance of 15cm or more between the computer and the wall and do not place any objects between them.

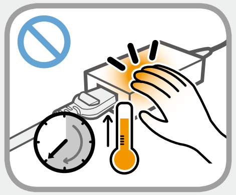
This may increase the internal temperature of the computer and may cause an injury.



Do not install the computer on a slant or a place prone to vibrations, or avoid using the computer in that location for a long time.

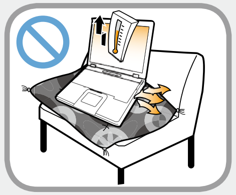
This increases the risk that a malfunction or damage to the product will occur.





Be careful that people are not exposed to the computer's ventilator, adapter, etc., as they generate heat over a long period of time when your PC is powered on.

Exposing a part of your body close to the heat from the vent or AC adapter for long periods of time may cause a burn.



Avoid blocking the vent at the bottom or side of the computer when using it on a bed or cushion.

If the vent is blocked, there is a danger of damaging the computer or overheating the inside of the computer.

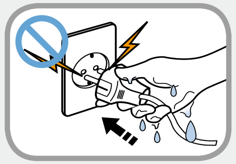
Safety Precautions

Warning

Failure to follow instructions marked with this symbol may cause personal injury and even fatality.

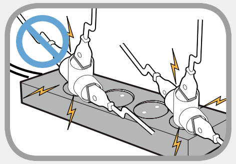
Power Related

The power plug and wall outlet figures may differ depending on the country specifications and the product model.



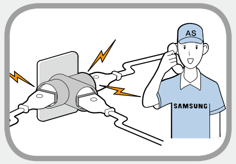
Do not touch the main plug or power cord with wet hands.

There is a danger of electric shock.



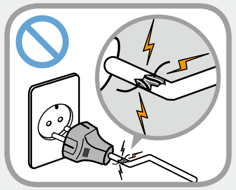
Do not exceed the standard capacity (voltage/current) of a multiplug or power outlet extension when using it for the product.

There is a danger of electric shock or fire hazard.



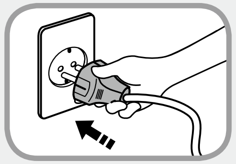
If the power cord or power outlet makes a noise, disconnect the power cord from the wall outlet and contact a service center.

There is a danger of electric shock or fire hazard.



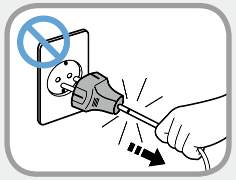
Do not use a damaged or loose main plug or power cord or power outlet.

There is a danger of electric shock or fire hazard.



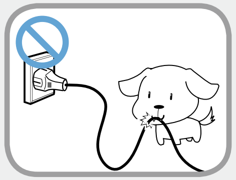
Plug the power cord firmly into the power outlet and AC adapter.

Failure to do so may cause fire hazard.



Do not unplug the power cord by pulling the cable only.

If the cord is damaged, it may cause electric shock.

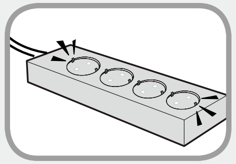


Do not bend the power cord excessively or do not place a heavy object over the power cord. It is especially important to keep the power cord out of reach of infants and pets.

If the cord is damaged, it may cause electric shock or fire.

Warning

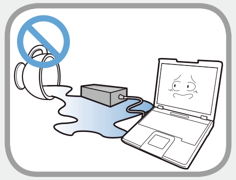
Failure to follow instructions marked with this symbol may cause personal injury and even fatality.



Connect the power cord to an outlet or multiple power plug (extended cable) with a ground terminal.

Failure to do so may result in electric shock.

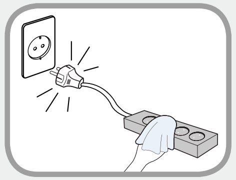
When the power supply is ungrounded, the current may leak resulting in electric shock.



If water or another substance enters the power input jack, AC adapter or the computer, disconnect the power cord and contact the service center.

If the notebook computer has an external type (removable) battery, separate the battery also.

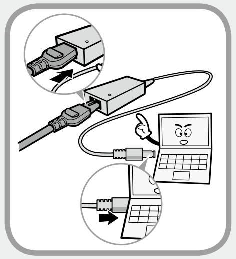
Damage to the device within the computer may cause electric shock or fire hazard.



Keep the power cord or outlet clean so that they are not covered with dust.

Failure to do so may result in fire.

AC Adapter Usage Precautions

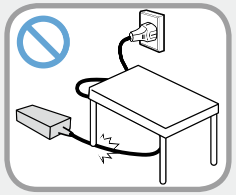


Connect the power cord to the AC adapter firmly.

Otherwise, there is a danger of fire due to an incomplete contact.

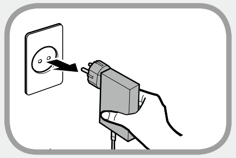
Use only the AC adapter supplied with the product.

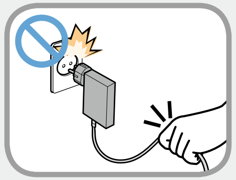
Using another adapter may cause the screen to flicker.



Do not place heavy objects or step onto the power cord or AC adapter to avoid damaging the power cord or AC adapter.

If the cord is damaged, there is a danger of electric shock or fire.





Unplug the wall-mount AC adapter (adapter and plug intergrated type) from the wall outlet while holding the body and pulling it in the direction of the arrow.

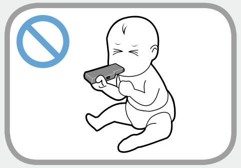
If you unplug the adapter by holding and pulling the cable, the adapter may be damaged and an electric shock, explosive sound or spark may occur as a result.

Warning

Failure to follow instructions marked with this symbol may cause personal injury and even fatality.

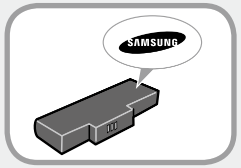
Battery Usage Related

Please charge the battery fully before using the computer for the first time.



Keep the battery out of the reach of infants and pets, as they could put the battery into their mouths.

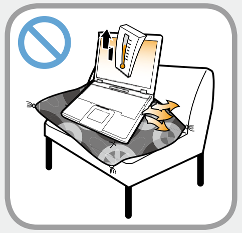
There is a danger of electric shock or choking.



Use an authorized battery and AC adapter only.

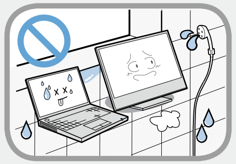
Please use an authorized battery and adapter approved by Samsung Electronics.

Unauthorized batteries and adapters may not meet the proper safety requirements and may cause problems or malfunctions and result in an explosion or fire.



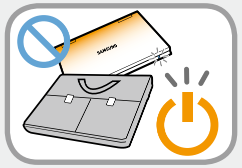
Do not use the computer in a badly ventilated location such as on bedding, on a pillow or cushion, etc, and do not use it in a location such as room with floor heating as it may cause the computer to overheat.

Take care that the computer vents (on the side or the bottom) are not blocked especially in these environments. If the vents are blocked, the computer may overheat and it may cause a computer problem, or even an explosion.



Do not use the computer in a humid location such as a bathroom or sauna.

Please use the computer within the recommended temperature and humidity range (10~32ºC, 20~80% RH).

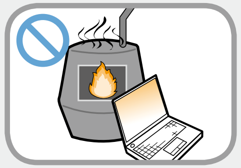


Do not close the LCD panel and put the computer into your bag to move it when it is still turned on.

If you put the computer into your bag without turning it off, the computer may overheat and there is a danger of fire. Shut the computer down properly before moving it.

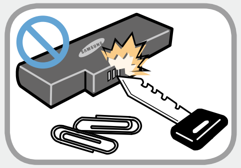
Warning

Failure to follow instructions marked with this symbol may cause personal injury and even fatality.



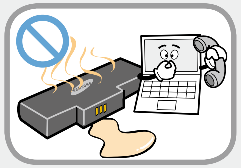
Never heat the product(or battery) or put the product(or battery) into a fire. Do not put or use the product(or battery) in a hot location such as a sauna, inside a vehicle exposed to the heat, and so on.

There is a danger of an explosion or fire.



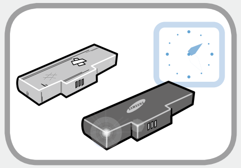
Take care not to allow metal objects such as a key or clip to touch the battery terminal (metal parts).

If a metal object touches the battery terminals, it may cause excessive current flow and it may damage the battery, or result in a fire.



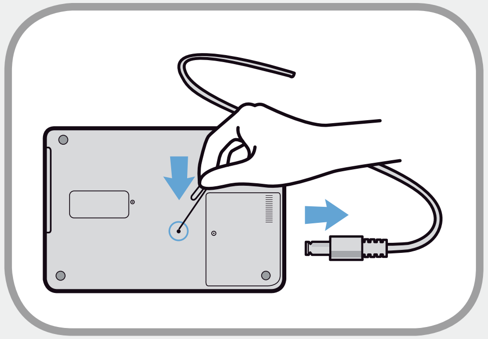
If liquid leaks out of the product(or battery) or there is a funny smell coming from the product(or battery), remove the the product(or battery) the computer and contact a service center.

There is a danger of an explosion or fire.



To use the computer safely, replace a dead battery with a new, authorized battery.

Cutting the power to the internal battery (for corresponding models only.)



- For products with built-in batteries, customers cannot remove the battery.
- In the case of flooding, lightning or explosions, you can cut the battery power by inserting an object such as a paper clip into the [Emergency Hole] at the bottom of the computer.
- Disconnect the AC adapter and insert an object such as a paper clip into the hole at the bottom of the computer to cut the battery power.

In the case of flooding, lightning or explosions, cut the battery power, do not reconnect the AC adapter, and immediately contact Samsung Electronics so that the appropriate countermeasures can be taken.

Warning

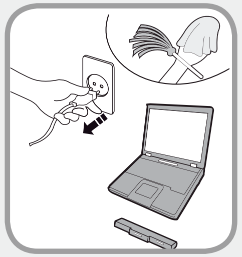
Failure to follow instructions marked with this symbol may cause personal injury and even fatality.

- Thereafter, if you connect the AC adapter, the battery power will be supplied again.

- **Do not cut the battery power under normal conditions.**
- **This may result in data loss or a product malfunction.**

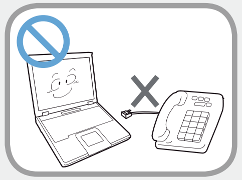
The location of the Emergency Hole may differ depending on the model.

Usage Related



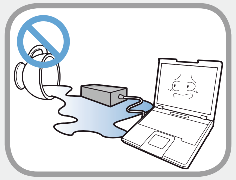
Disconnect all cables connected to the computer before cleaning it. If your notebook is external & removable battery type, remove the external battery.

There is a danger of electric shock or damage to the product.



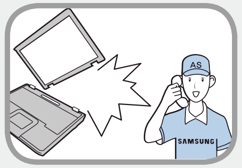
Do not connect a phone line connected to a digital phone to the modem.

There is a danger of a electric shock, fire or damage to the product.



Do not place any container filled with water or chemicals over or near the computer.

If water or chemicals enter the computer, this may cause fire or electric shock.



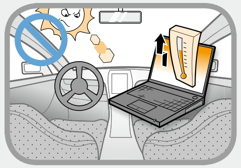
If the computer is broken or dropped, disconnect the power cord and contact a service center for a safety check.

If the notebook computer has an external type (removable) battery, separate the battery also.

Using a broken computer may cause electric shock or fire hazard.

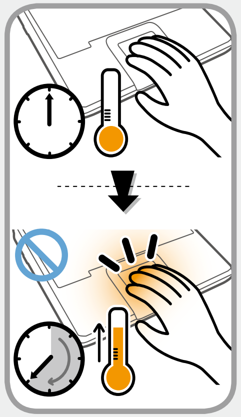
Warning

Failure to follow instructions marked with this symbol may cause personal injury and even fatality.



Avoid direct sunlight when the computer is in an air-tight location such as inside a vehicle.

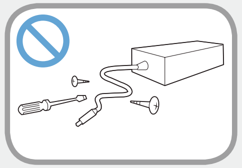
There is a danger of a fire hazard. The computer may overheat and also present opportunity to thieves.



Do not use your computer for long periods of time while any part of your body is making direct contact with it. The temperature of the product may increase during normal operation.

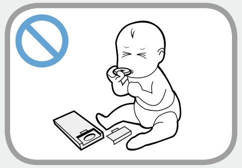
This may result in harming or burning your skin.

Upgrade Related



Never disassemble the power supply or AC adapter.

There is a danger of electric shock.

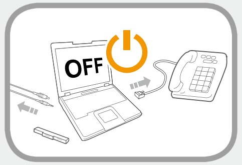


When removing the RTC (Real Time Clock) battery, keep it out of the reach of children as they could touch and/or swallow it.

There is a danger of choking. If a child has swallowed it, contact a doctor immediately.

Use only authorized parts (multi-plug, battery and memory) and never disassemble parts.

There is a danger of damaging the product, electric shock or fire hazard.



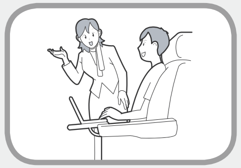
Shut down the computer and disconnect all cables before disassembling the computer. If there is a modem, disconnect the phone line. If your notebook is external & removable battery type, remove the external battery.

Failure to do so, may cause electric shock.

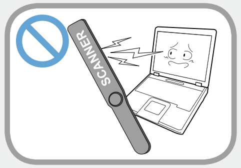
Warning

Failure to follow instructions marked with this symbol may cause personal injury and even fatality.

Security and Movement Related

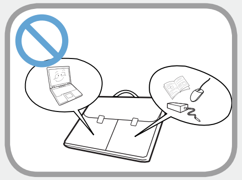


Follow the instructions for the relevant location (e.g. airplane, hospital, etc.) when using a wireless communication device (wireless LAN, Bluetooth, etc.).



Avoid exposing a drive to magnetic fields. Security devices with magnetic fields include airport walk-through devices and security wands.

The airport security devices that check carry-on luggage, such as conveyor belts, use x-rays instead of magnetism and will not damage a drive.



When carrying the notebook computer with other items, such as the adapter, mouse, books etc, take care not to press anything against the notebook computer.

If a heavy object is pressed against the notebook computer, a white spot or stain may appear on the LCD. Therefore, take care not to apply any pressure to the notebook.

In this case, place the notebook computer in a separate compartment away from the other objects.

Safety Precautions

Caution

Failure to follow instructions marked with this symbol may cause slight injury or damage to the product.

Installation Related

Do not block the ports (holes), vents, etc. of the product and do not insert objects.

Damage to a component within the computer may cause electric shock or fire.

When using the computer with it lying on its side, place it so that the vents face upwards.

Failure to do so, may cause the internal temperature of the computer to rise and the computer to malfunction or halt.

Do not place a heavy object over the product.

This may cause a problem with the computer. In addition, the object may fall and cause injury, or damage the computer.

Battery Usage Related

Dispose of worn-out batteries properly.

- There is a danger of fire or explosion.
- The battery disposal method may differ depending on your country and region. Dispose of the used battery in an appropriate way.

Do not throw or disassemble the battery and do not put it into water.

This may cause an injury, fire or explosion.

Use only a battery authorized by Samsung Electronics.

Failure to do so may cause an explosion.

Avoid contact with metal objects such as car keys or clips when keeping or carrying a battery.

Contact with a metal may cause excessive current and a high temperature and may damage the battery or cause a fire.

Charge the battery according to the instructions in the manual.

Failure to do so, may cause an explosion or fire from damage to the product.

Do not heat the product(or battery) or expose it to heat (e.g. inside a vehicle during the summer).

There is a danger of explosion or fire.

Safety Precautions

Caution

Failure to follow instructions marked with this symbol may cause slight injury or damage to the product.

Usage Related

Do not place a candle, light cigar, etc. over or on the product.

There is a danger of fire.

Use a wall outlet or multi-plug with a grounding part.

Failure to do so may cause electric shock hazard.

Make sure to have the product tested by a safety service engineer after repairing the product.

Authorized Samsung Repair Centers will carry out safety checks after a repair. Using a repaired product without testing it for safety may cause an electric shock or fire.

In case of lightning, immediately turn the system off, disconnect the power cord from the wall outlet and phone line from modem. Do not use a modem or phone.

There is a danger of electric shock or fire.

Do not use your computer and AC-Adapter on your lap or soft surfaces.

If the computer temperature increases, there is a danger of burning yourself.

Connect only permitted devices to the connectors or ports of the computer.

Failure to do so, may cause electric shock and fire.

Close the LCD panel only after checking if the notebook computer is turned off.

The temperature may rise and it may cause overheating and deformation of the product.

Do not press the Eject Button while the CD-ROM drive is in operation.

You might lose data and the disk might be suddenly ejected and could cause an injury.

Take care not to drop the product while using it.

This may cause personal injury or loss of data.

Do not touch the antenna with electricity facility such as the power outlet.

There is a danger of electric shock.

When handling computer parts, follow the instructions on the manual supplied with the parts.

Failure to do so, may cause damage to the product.

Safety Precautions

Caution

Failure to follow instructions marked with this symbol may cause slight injury or damage to the product.

If the computer emits smoke, or there is a burning smell, disconnect the power plug from the wall outlet and contact a service center immediately. If your notebook is external & removable battery type, remove the external battery.

There is a danger of fire.

Do not use a damaged or modified CD.

There is a danger of damaging the product or personal injury.

Do not insert your fingers into the PC Card Slot.

There is a danger of injury or electric shock.

Use recommended computer cleansing solution when cleaning the product and only use the computer when it is completely dried.

Failure to do so may cause electric shock or fire.

Emergency disk eject method using paperclip should not be used while the disk is in motion. Make sure to use the emergency disk eject method only when the Optical Disk Drive has stopped.

There is a danger of injury.

Do not place your face close to the Optical Disk Drive tray when it is operating.

There is a danger of injury due to an abrupt ejection.

Check CDs for cracks and damage prior to use.

It may damage the disc and cause disorder of device and injury of user.

⚠ Caution

Failure to follow instructions marked with this symbol may cause slight injury or damage to the product.

Upgrade Related

Take care when touching the product or parts.

The device may be damaged or you may be injured.

Take care not to throw or drop a computer part or device.

This may cause injury or damage to the product.

Make sure to close the computer cover before connecting the power after a reassembly.

There is a danger of electric shock if your body touches an internal part.

Use parts authorized by Samsung Electronics only.

Failure to do so, may cause fire or damage the product.

Never disassemble or repair the product by yourself.

There is a danger of electric shock or fire.

To connect a device that is not manufactured or authorized by Samsung Electronics, enquire at your service center before connecting the device.

There is a danger of damaging the product.

Security and Movement Related

When moving the product, turn the power off and separate all connected cables first.

The product might be damaged or users may trip over the cables.

For long periods of not using the notebook computer, discharge the battery and preserve as it is detached. (For external & removable battery type)

The battery will be preserved at its best condition.

Do not operate or watch the computer while driving a vehicle.

There is a danger of a traffic accident. Please concentrate on driving.

Caution

Failure to follow instructions marked with this symbol may cause slight injury or damage to the product.

Cautions on Preventing Data Loss (Hard Disk Management)

Take care not to damage the data on a hard disk drive.

- A hard disk drive is so sensitive to external impact that an external impact may cause loss of data on the surface of the disk.
- Take extra care, because moving the computer or an impact on the computer when it is turned on may damage the data of the hard disk drive.
- The company is not liable for any loss of data on the hard disk drive.

Causes that may damage the data of a hard disk drive and the hard disk drive itself.

- The data may be lost when an external impact is applied to the disk while disassembling or assembling the computer.
- The data may be lost when the computer is turned off or reset by a power failure while the hard disk drive is operating.
- The data may be lost and irrecoverable due to a computer virus infection.
- The data may be lost if the power is turned off while running a program.
- Sudden impact or movement to the computer while the hard disk drive is operating, may cause files to be corrupted or bad sectors on the hard disk.

To prevent data loss due to damage to the hard disk drive, please backup your data frequently.

Using the power supply in an airplane

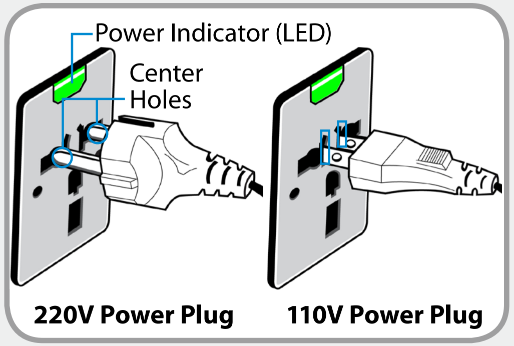
Since the power outlet type differs depending on the type of airplane, connect the power appropriately.

> Since the representative figures of the power plug and the auto adapter are used, they may differ from the actual parts.

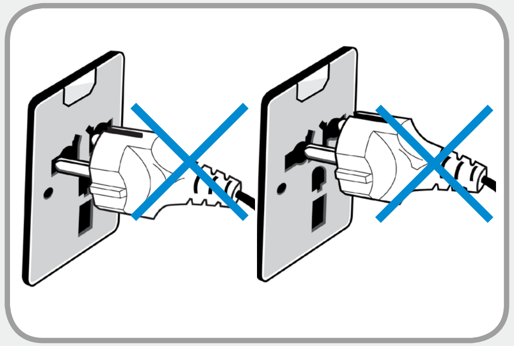
When using the AC power plug

Connect the power plug pins perpendicular into the center of the power outlet.

- If the plug pins are not inserted into the center of the holes, the plug pins are only inserted up to half their length. In this case, reconnect the power plug.
- You have to insert the power plug into the outlet when the power indicator (LED) of the power outlet is lit green. If the power is connected properly, the power indicator (LED) remains green.
  Otherwise, the power indicator (LED) is turned off. In this case, unplug the power, check if the power indicator (LED) is green, and then reconnect the power plug.



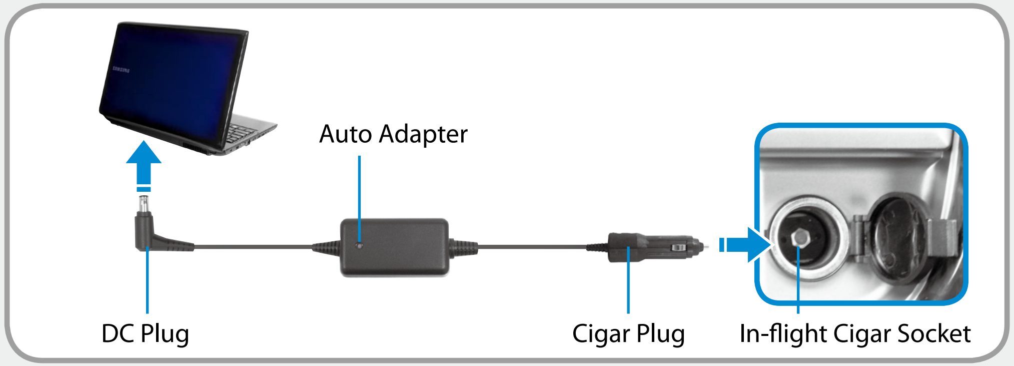
Good Example ○



Wrong Example ×

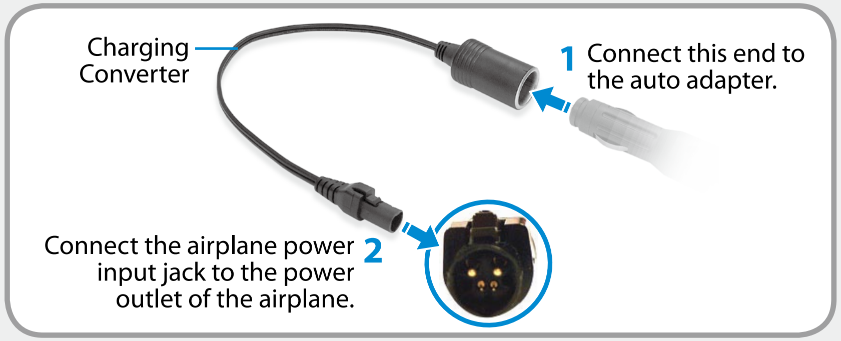
When using the auto adapter

When the cigar socket is provided, you have to use the auto adapter (optional). Insert the cigar plug of the auto adapter into the cigar socket and connect the DC plug of the auto adapter to the power input port of the computer.


Auto Adapter
DC Plug
Cigar Plug
In-flight Cigar Socket

When using the Airplane Charging Converter

Depending on the airplane, you have to use the auto adapter and charging converter. Connect the airplane charging converter (optional) to the auto adapter (optional) and then insert the airplane power input jack into the power outlet.


Charging Converter
1 Connect this end to the auto adapter.
2 Connect the airplane power input jack to the power outlet of the airplane.

Proper Posture During Computer Use

Maintaining a proper posture during computer use is very important to prevent physical harm.

The following instructions are about maintaining a proper posture during computer use developed through human engineering. Please read and follow them carefully when using the computer.

Otherwise, the probability of (RSI: Repetitive Strain Injury) from repeated operations may increase and serious physical harm may be caused.

- The instructions in this manual have been prepared so that they can be applied within the coverage of general users.
- If the user is not included in the coverage, the recommendation is to be applied according to the user's needs.

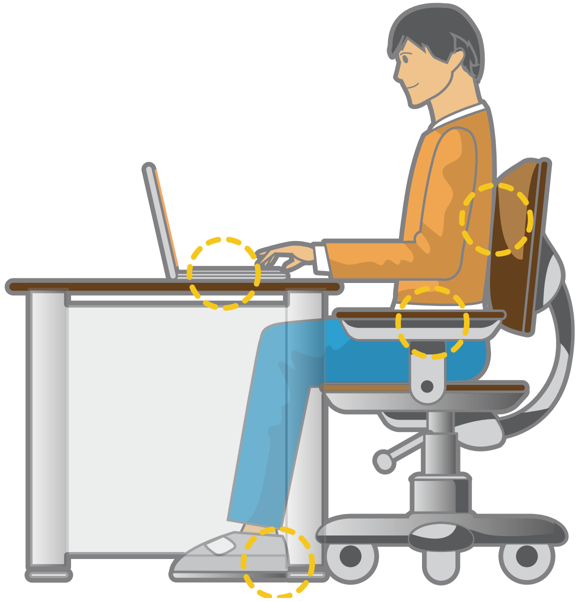
Proper Posture

Adjust the heights of desks and chairs appropriate to your height.

The heights are to be adjusted so that your arm forms a right angle when you place your hand over the keyboard while sitting down on a chair.

Adjust the height of chair so that your heel is comfortably placed on the floor.

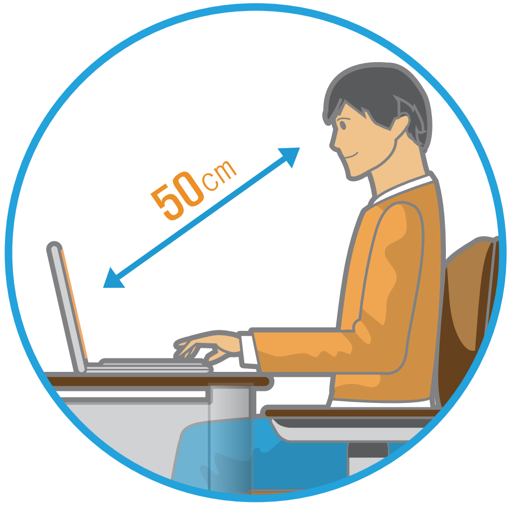
- Do not use the computer while you are lying down, but only while you are sitting down.
- Do not use the computer on your lap. If the computer temperature increases, there is a danger of burning yourself.
- Work while keeping your waist straight.
- Use a chair with a comfortable back.
- Keep the center of your leg weight not on the chair but on your feet when you are sitting on a chair.
- To use the computer while talking over the telephone, use a headset. Using the computer with the phone on your shoulder is bad for posture.
- Keep frequently used items within a comfortable work range (where you can reach them with your hands).



Proper Posture During Computer Use

Eye Position

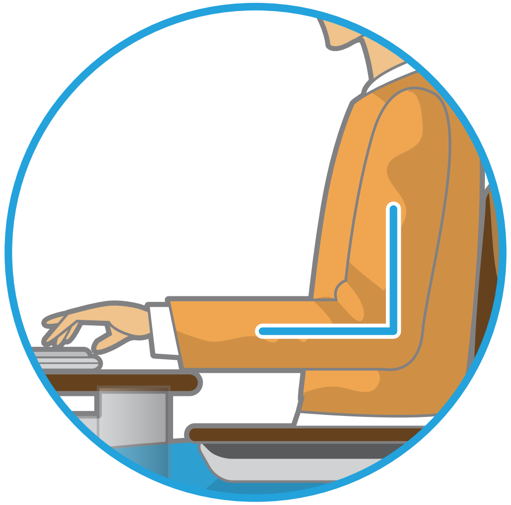
Keep the monitor or LCD away from your eyes by at least 50cm.



- Adjust the height of the monitor and the LCD screen so that its top height is equal to or lower than your eyes.
- Avoid setting the monitor and LCD excessively bright.
- Keep the monitor and LCD screen clean.
- If you wear glasses, clean them before using the computer.
- When entering contents printed on a paper into the computer, use a static paper holder so that the height of the paper is almost equal to that of the monitor.

Hand Position

Keep your arm at a right angle as shown by the figure.

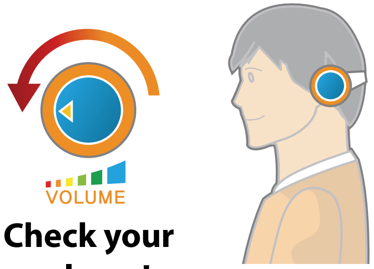


- Keep the line from your elbow to your hand straight.
- Do not place your palm over the keyboard while typing.
- Do not hold the mouse with excessive force.
- Do not press the keyboard, touchpad or mouse with excessive force.
- It is recommended connecting an external keyboard and mouse when using the computer for long periods of time.

Proper Posture During Computer Use

Volume Control (Headphones and Speakers)

Check your volume first to listen to music.



Check your volume!

- Check if the volume is too loud before using headphones.
- It is not recommended using headphones for long periods of time.
- Any deviation from the equalizer default setting could cause hearing impairment.
- The default setting can be changed through software and driver updates without your intervention. Please check the equalizer default setting before first usage.

To prevent possible hearing damage, do not listen at high volume levels for long periods.

Use Time (Break Time)

- Take a break for 10 minutes or more after a 50-minute period when working for more than one hour.

Illumination

- Do not use the computer in dark locations. The illumination level for computer use must be as bright so for reading a book.
- Indirect illumination is recommended. Use a curtain to prevent reflection on the LCD screen.

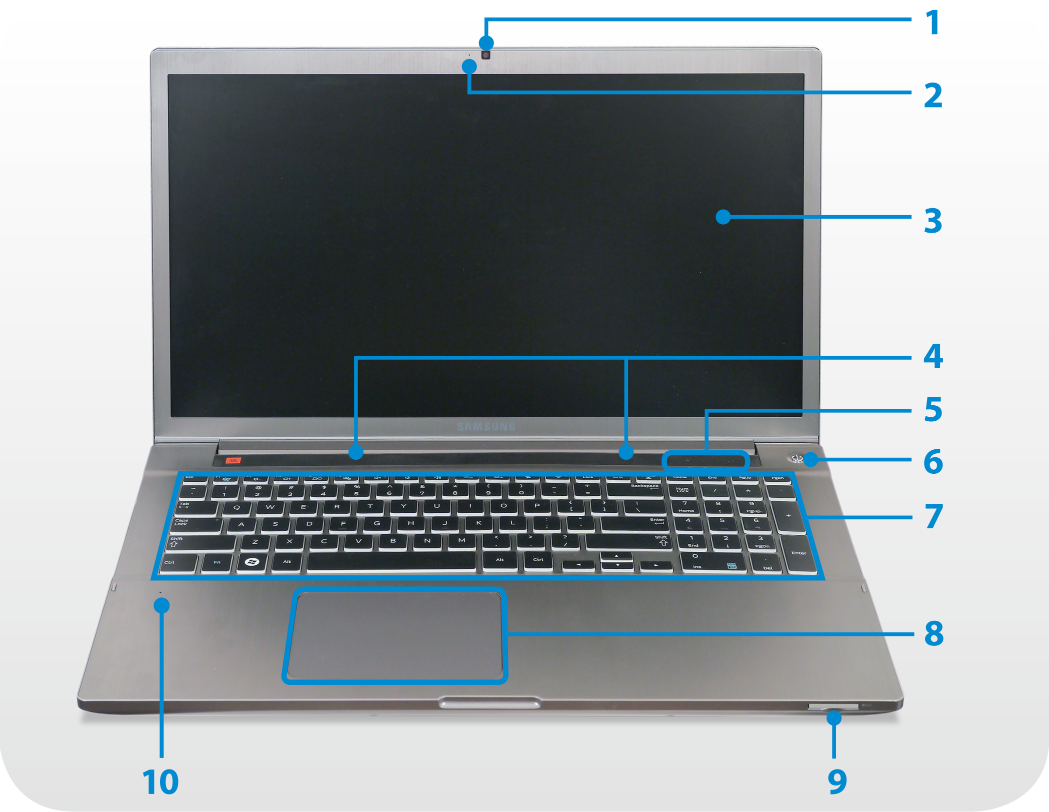
Operation Condition

- Do not use the computer in hot and humid locations.
- Use the computer within the allowed temperature and humidity range specified in the User Guide.

Front View

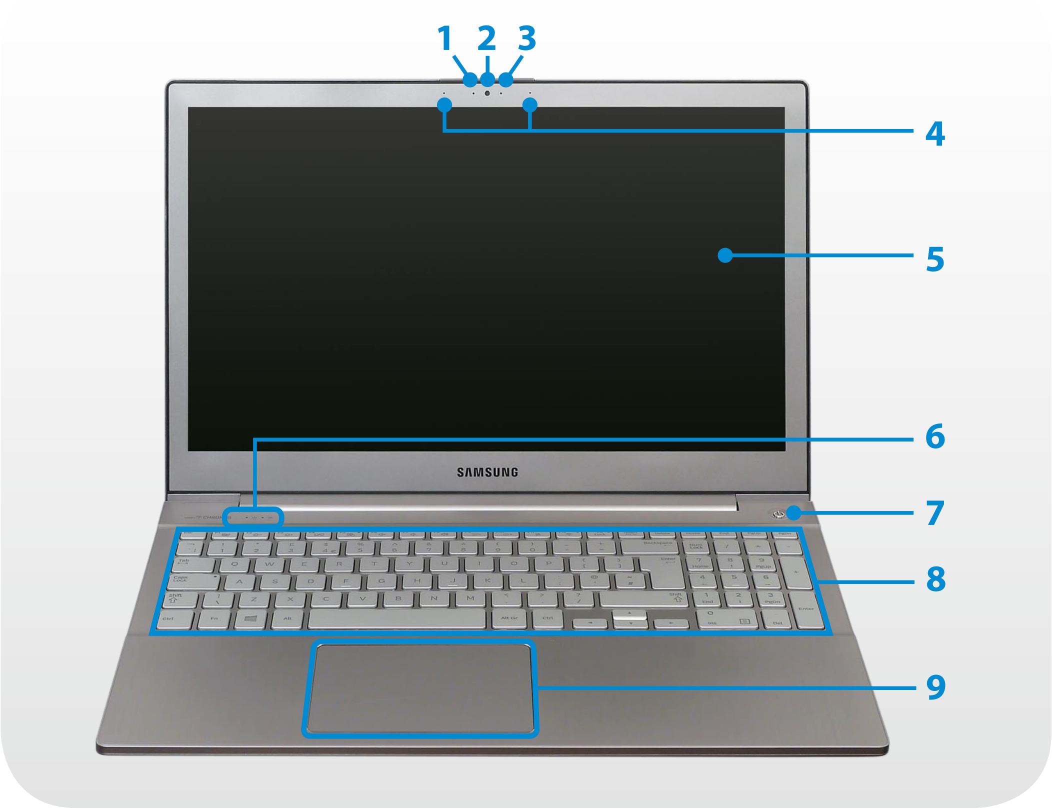
The pictures used for the cover and the main body in the User Manual are those of the representative model of each series. Therefore the colors and appearance of the pictures may differ from the actual appearance of the product depending on the model.

▶ For 17.3 inch models



1	Camera (Optional)	Using this camera, you can take still pictures and record video. You can take a picture or make a movie using the **Charms** > **Start** > **Camera**.
2	Camera operating indicator (Optional)	This indicates the camera operating status.
3	LCD or Touch screen (Optional)	The screen images are displayed here. It works as a touch screen in models that support the touch screen feature. (Optional)
4	Speaker	A device used to generate sound.
5	Status Indicators	Shows the operating status of the computer. The corresponding operating LED is lit when the corresponding function operates.
6	Power Button ⏻	Turns the computer on and off.
7	Keyboard	A device to enter data by pressing the keys.
8	Touchpad/ Touchpad Buttons	The touchpad and touchpad buttons provide functions similar to the mouse ball and buttons.
9	Multi Card Slot SD	A card slot supports multi cards.
10	Microphone 🎤	You can use the built-in microphone.

▶ **For 15.6 inch models**



1	**Camera operating indicator (Optional)**	This indicates the camera operating status.
2	**Camera (Optional)**	Using this camera, you can take still pictures and record video. You can take a picture or make a movie using the **Charms** > **Start** > **Camera**.
3	**Illumination Sensor (Optional)**	This sensor detects the ambient illumination of the PC. If the ambient illumination becomes dark, the LCD becomes dimmer and the keyboard backlight is lit. On the contrary, if the ambient illumination becomes brighter, the LCD becomes brighter and the keyboard backlight is turned off.
4	**Microphone**	You can use the built-in microphone.
5	**LCD or Touch screen (Optional)**	The screen images are displayed here. It works as a touch screen in models that support the touch screen feature. (Optional)
6	**Status Indicators**	Shows the operating status of the computer. The corresponding operating LED is lit when the corresponding function operates.
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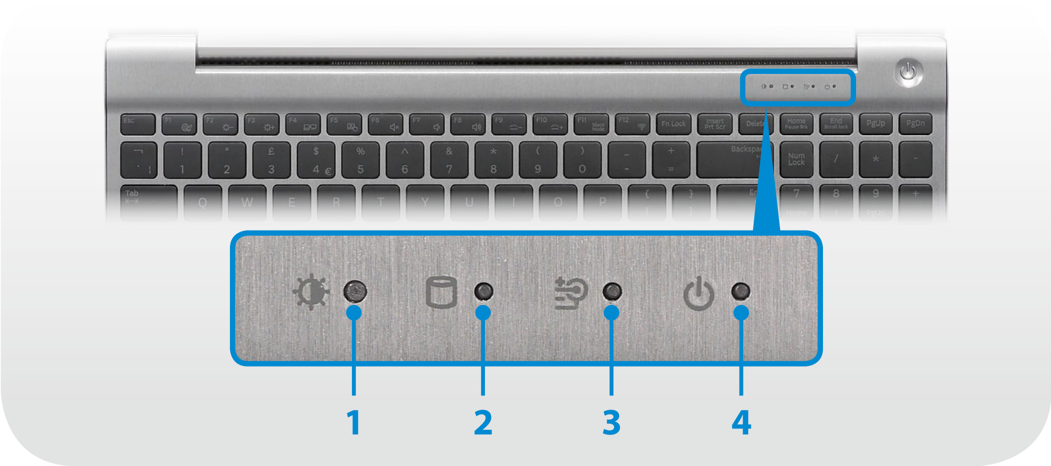
Status Indicators

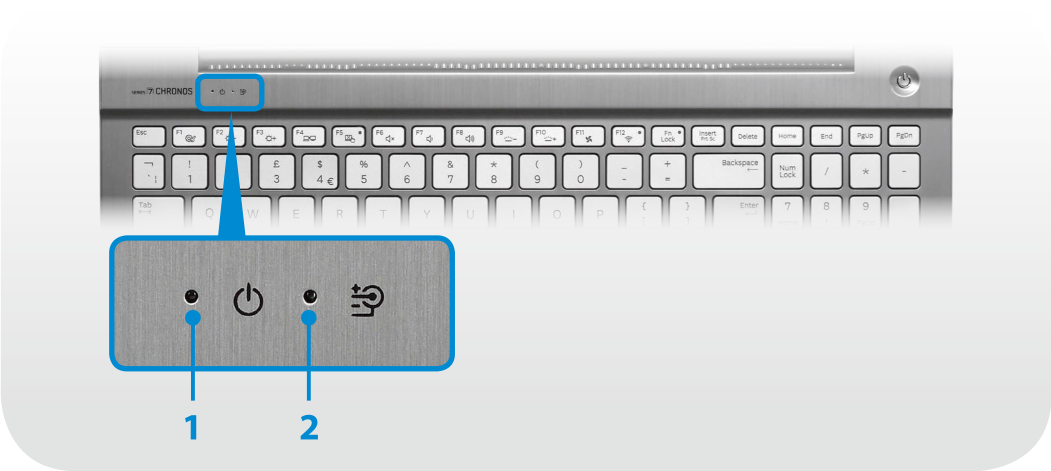
▶ For 17.3 inch models



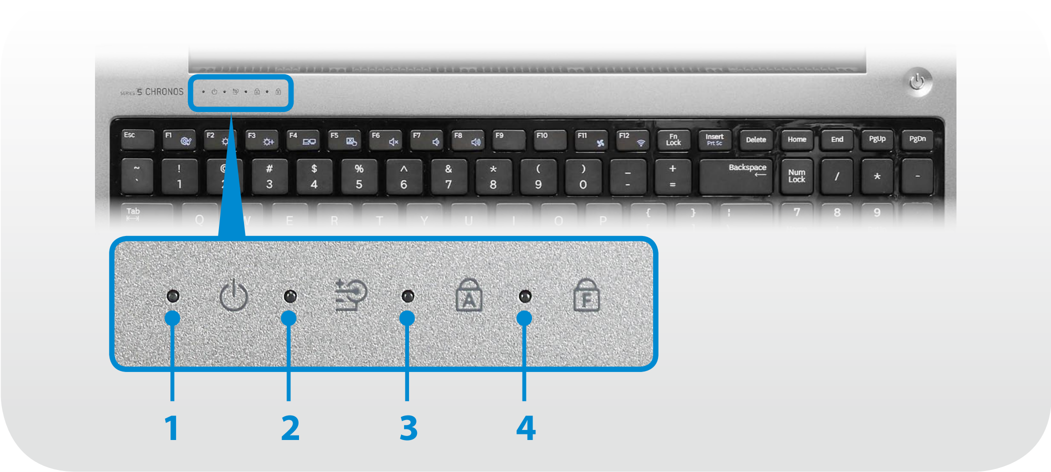
1	Illumination Sensor (Optional)	This sensor detects the ambient illumination of the PC. If the ambient illumination becomes dark, the LCD becomes dimmer and the keyboard backlight is lit. On the contrary, if the ambient illumination becomes brighter, the LCD becomes brighter and the keyboard backlight is turned off.
2	HDD/ODD	This turns on when the hard disk is or ODD being accessed.
3	Charge Status	This shows the power source and the battery charge status. ● **Green:** When the battery is fully charged or the battery is not installed. ●/● **Red** or **orange:** When the battery is being charged. ● **Off:** When the computer is running on battery power without being connected to AC adapter.
4	Power	This shows the computer operating status. **On:** When the computer is operating. **Blinks:** When the computer is in Sleep mode.

Status Indicators

▶ For 15.6 inch models-A



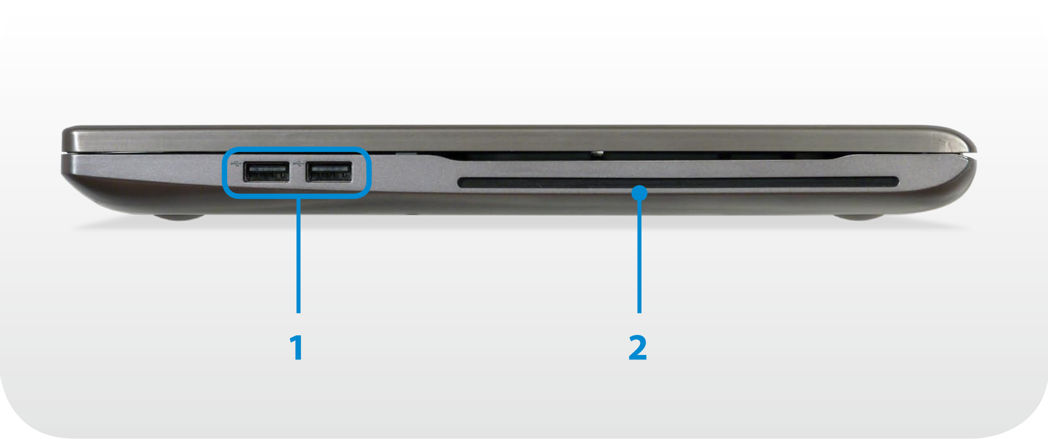
▶ For 15.6 inch models-B



1	Power ⏻	This shows the computer operating status. **On:** When the computer is operating. **Blinks:** When the computer is in Sleep mode.
2	Charge Status	This shows the power source and the battery charge status. 🟢 **Green:** When the battery is fully charged or the battery is not installed. 🔴/🟠 **Red** or **orange:** When the battery is being charged. ● **Off:** When the computer is running on battery power without being connected to AC adapter.
3	Caps Lock	This turns on when the Caps Lock key is pressed allowing capital letters to be typed without holding the Shift button down. **On**: Upper-case alphabetic input **Off**: Lower-case alphabetic input
4	Fn Lock	This indicator displays the On/Off status of the Fn Lock function. **On**: You can use hot keys without holding the Fn key. **Off**: You must hold the Fn key before pressing a hot key in order to execute it.

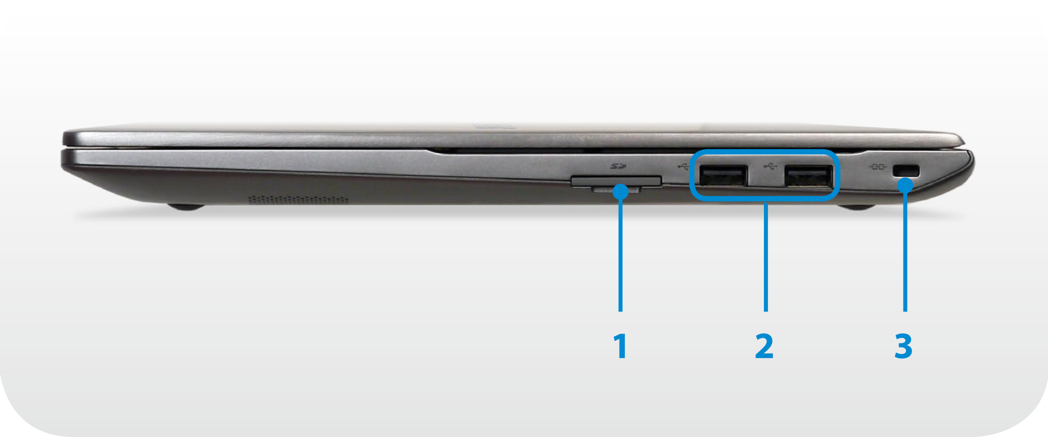
Right View

▶ For 17.3 inch models



1	**USB 2.0 Port**	You can connect USB devices to the USB port such as a keyboard/mouse, digital camera, etc.
2	**CD Drive (ODD) (Optional)**	Plays CD or DVD titles. Since an ODD(Optical Disk Drive) is optional, the installed drive depends on the computer model.

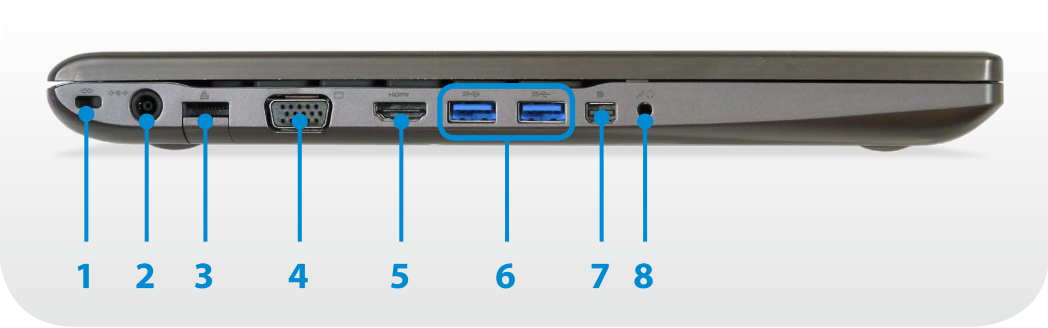
▶ For 15.6 inch models



1	**Multi Card Slot**	A card slot supports multi cards.
2	**USB 2.0 Port**	You can connect USB devices to the USB port such as a keyboard/mouse, digital camera, etc.
3	**Security Slot**	You can secure the computer by connecting a lock and cable to the Security Slot.

Left View

▶ **For 17.3 inch models**



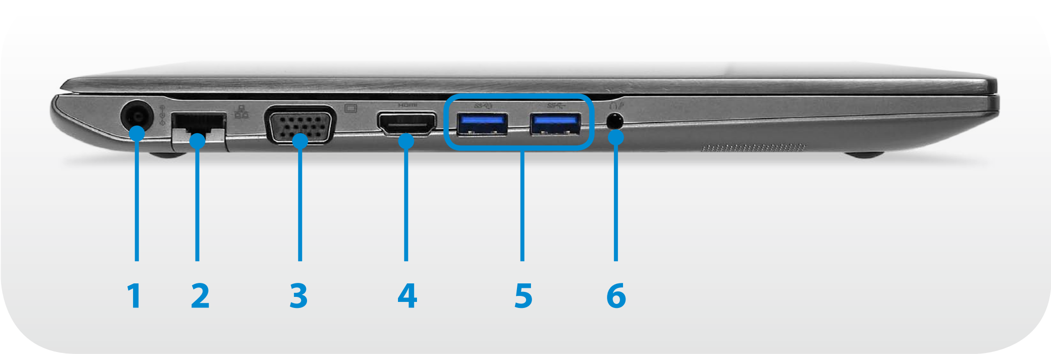
What is a chargeable USB port?

- USB device accessing and charging functions are supported.
- The USB charging function is supported regardless of whether the power is turned on or off.
- Charging a device through a chargeable USB port may take longer than general charging.
- Using the Chargeable USB function when the computer is running on battery power reduces the battery usage time.
- The user cannot evaluate the charging status of the USB device from the computer.
- This may not be supported for some USB devices.
- You can turn the Chargeable USB function **ON/OFF** by selecting the **Settings > Power Management > USB Charging** option. (Optional)

1	Security Slot	You can secure the computer by connecting a lock and cable to the Security Slot.
2	DC Jack	A jack to connect the AC adapter that supplies power to the computer.
3	Wired LAN Port	Connect the Ethernet cable to this port.
4	Monitor Port	A port used to connect a monitor, TV or projector supporting a 15pin D-SUB interface.
5	Digital Video/Audio Port (HDMI) (Optional)	You can connect an HDMI cable to this port. Using this port, you can enjoy digital video and audio on the TV.
6	USB 3.0 Port or Chargeable USB 3.0 Port (Optional)	USB ports to which you can connect USB devices as well as a chargeable USB port are provided. Using a chargeable USB port, you can access or charge a USB device. The port can be distinguished by the figure (SS or SS) printed on the port of the product. For **Windows XP**, the USB 3.0 feature may be restricted.
7	Mini DisplayPort (Mini DP)	A port used to connect a Mini DisplayPort cable. You can view digital videos by connecting to a TV or monitor with a Mini DisplayPort.
8	Ear-set / headset Jack	This is the jack for connecting an ear-set or headset.

Left View

► For 15.6 inch models



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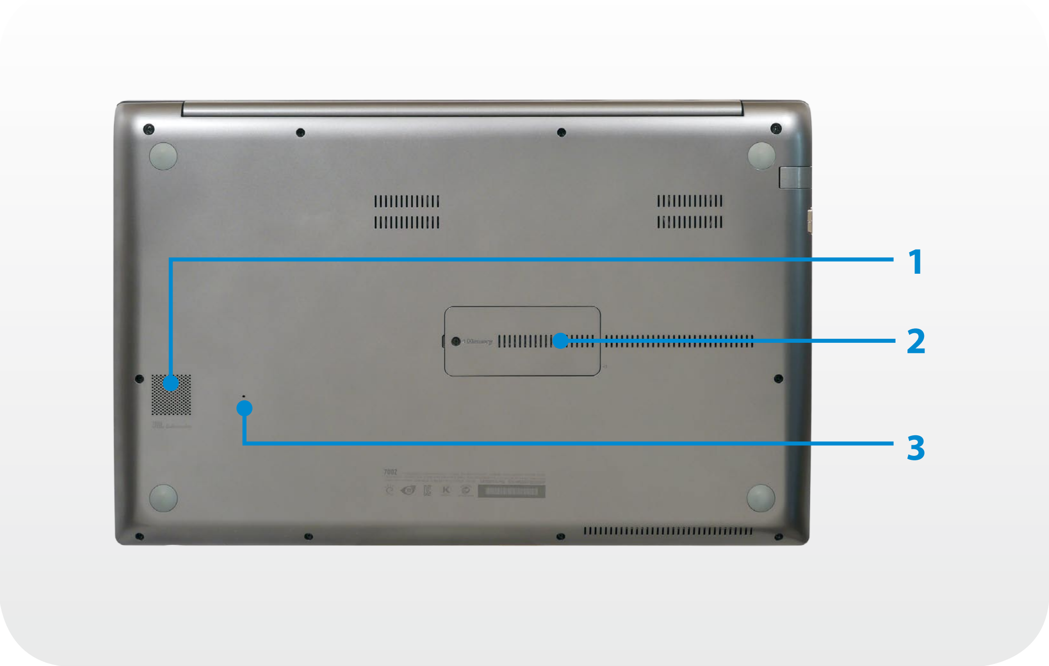
6	Ear-set / headset Jack	This is the jack for connecting an ear-set or headset.

Bottom View

► For 17.3 inch models



1	**Sub-Woofer Speaker (Optional)**	A device used to produce mid and low frequency sound louder.
2	**Memory Compartment Cover**	The main memory is installed inside the cover.
3	**Battery Emergency Hole**	This hole is to cut the power supply to the battery. Insert and press one end of an unfolded paper clip into the hole it to cut the power to the battery. For more information, refer to **About the function to cut the power supply to the internal battery** in the Safety Precautions. The location of the Emergency Battery Hole may differ depending on the model.

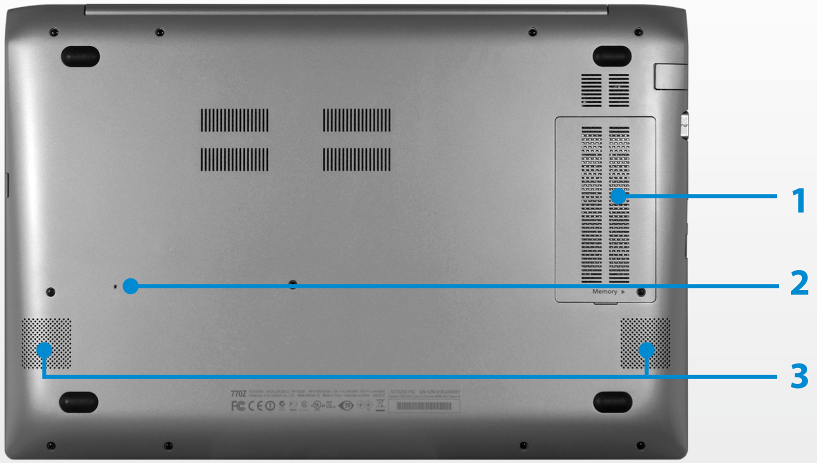
- If you replace the bottom of the product, the model name, serial number and some logos etched into the bottom of the product will no longer be there.

  For more information, please ask for assistance from the service center.
- To replace your hardware such as the HDD, memory, batteries, etc., contact the Samsung Service Center to request assistance.

  In this case, you may be charged for the relevant service.

Bottom View

▶ For 15.6 inch models



1	**Memory Compartment Cover**	The main memory is installed inside the cover.
2	**Battery Emergency Hole**	This hole is to cut the power supply to the battery. Insert and press one end of an unfolded paper clip into the hole it to cut the power to the battery. For more information, refer to **About the function to cut the power supply to the internal battery** in the Safety Precautions. The location of the Emergency Battery Hole may differ depending on the model.
3	**Speaker**	A device used to generate sound.

- If you replace the bottom of the product, the model name, serial number and some logos etched into the bottom of the product will no longer be there.

  For more information, please ask for assistance from the service center.
- To replace your hardware such as the HDD, memory, batteries, etc., contact the Samsung Service Center to request assistance.

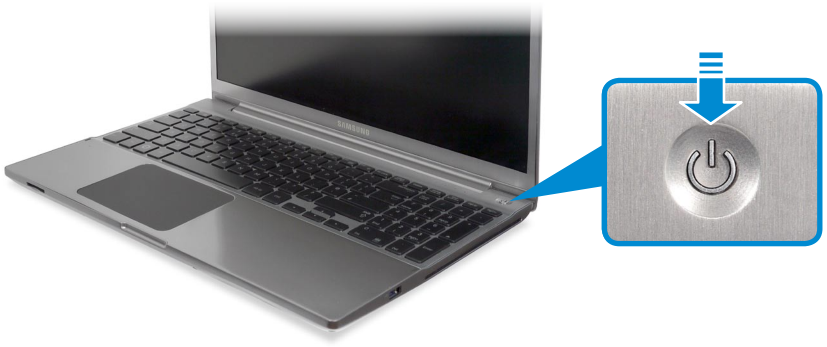
  In this case, you may be charged for the relevant service.

Turning the computer on

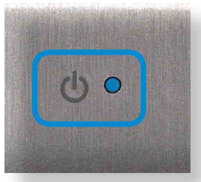
1 Connect the **AC adapter**.

2 Lift the LCD panel up.

3 Press the **Power button** to turn the computer on.



4 If the power is turned on, the **power LED** is lit.



About Windows Activation

When you turn the computer on for the first time, the Windows activation screen appears.

Follow the activation procedures according to the instructions on the screen to use the computer.

Adjusting the screen brightness

When the computer runs on battery power, the LCD brightness is automatically set to low.

Press the Fn + F3 ☼+ key combination to increase the screen brightness.

1 The **Charms menu** appears when you place your mouse pointer at the edge of the top or bottom right of the screen. Alternatively, if you place your finger on the right edge of the touchpad and drag your finger toward the center, the Charms menu appears.

2 Increase the bar by pressing the **Settings** ⚙ > **Brightness** ☼ .

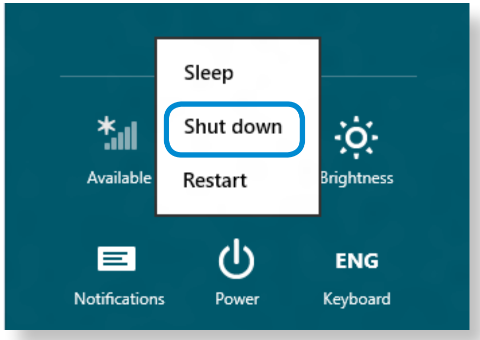
Turning the Computer On and Off

Turning the computer off

- Since the procedures to turn the computer off may differ depending on the installed operating system, please turn the computer off according to the procedures for the purchased operating system.
- Save all your data before clicking on **Shut down**.

1 The Charms menu appears when you place your mouse pointer at the edge of the top or bottom right of the screen.

2 Click **Settings** ⚙ > **Power** ⏻ > **Shut down**.


Sleep
Shut down
Restart
Available
Brightness
Notifications
Power
ENG
Keyboard

If you want to power off your computer when you are logged out, unlock the screen and click **Power** ⏻ > **Shut down**.

Chapter 2.
Using Windows 8

What is Microsoft Windows 8? 36

Screen At a Glance 37

Using the Charms 39

Using Apps 41

Windows Hot Key Function 44

Using the Touch Screen (For touch screen models only) 45

What is Microsoft Windows 8?

Microsoft Windows 8 (hereafter referred to as Windows) is an operating system that is required for operating a computer.

To use your computer optimally, you need to know how to use it properly. Therefore, It is better to learn how to use Windows by utilizing **Windows Help and Support**.

- The screen may appear somewhat different depending on the model and the operating system.
- Since this guide has been prepared based on Windows 8, some of the instructions may differ depending on the version. It may also be modified without prior notice.

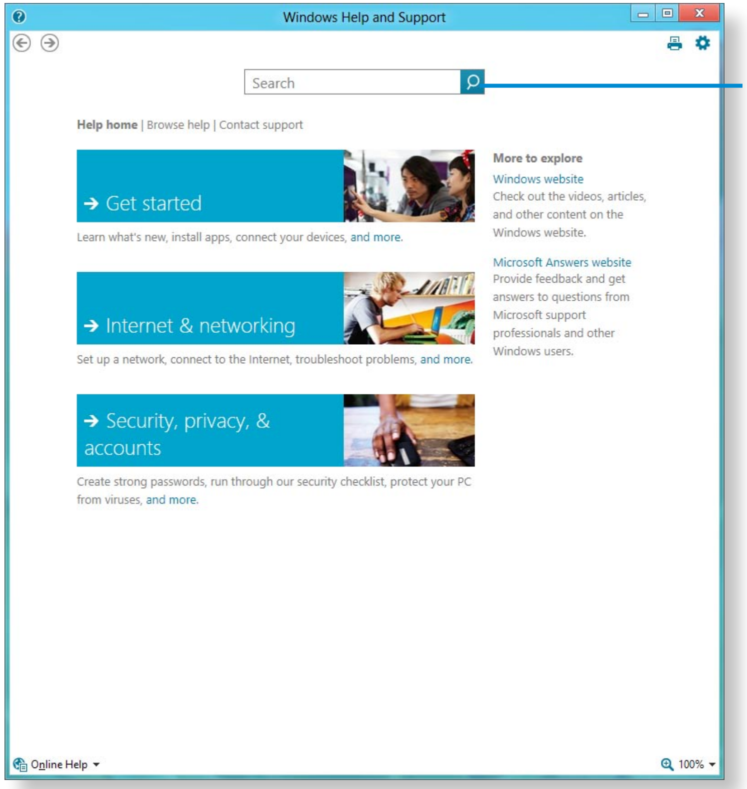
Displaying Help

Press the **F1 Key** on the keyboard to display the Help.

Alternatively, place your mouse cursor over the end of the top or bottom right area on the screen to display the Charms menu.

Click Charms menu > **Settings** > **Help**.

If you are connected to the internet, you can access the most recent online Help.


Windows Help and Support
Search
Help home | Browse help | Contact support
→ Get started
→ Internet & networking
→ Security, privacy, & accounts
More to explore
Windows website
Microsoft Answers website
Online Help
100%

Learn what's new, install apps, connect your devices, and more.

Set up a network, connect to the Internet, troubleshoot problems, and more.

Create strong passwords, run through our security checklist, protect your PC from viruses, and more.

Check out the videos, articles, and other content on the Windows website.

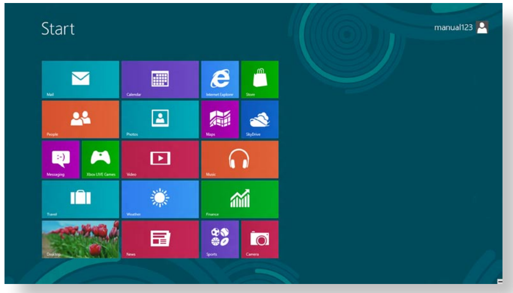
Provide feedback and get answers to questions from Microsoft support professionals and other Windows users.

Searching for Help

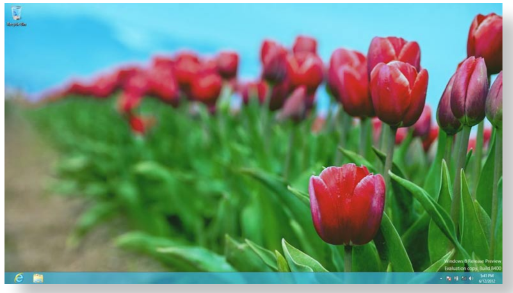
Get Started	You can view basic instructions on how to use your computer including new function(s) for the Windows OS.
Internet & networking	After connecting to the network, you can check the Help section required to use the internet.
Security, privacy, & accounts	You can check the Help information required to protect your computer and personal information.

Screen At a Glance

Windows 8 provides both the new **Start screen** mode and the **Desktop** mode of the existing OS.



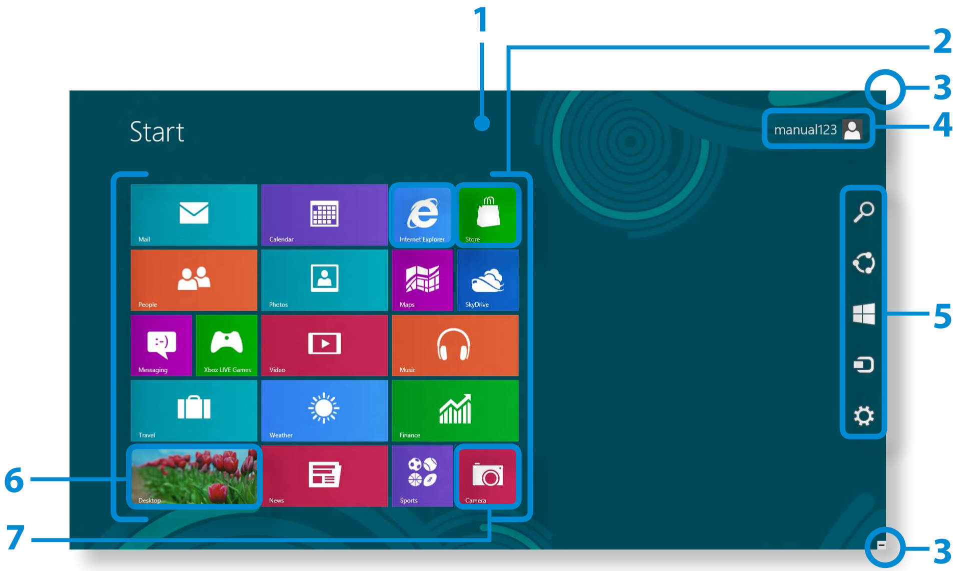
Start Screen



Desktop

Start Screen

When you turn on the computer, the **Start screen** is displayed, which allows you to use the applications (Application, App, hereafter referred to as an **App**) at the same location.

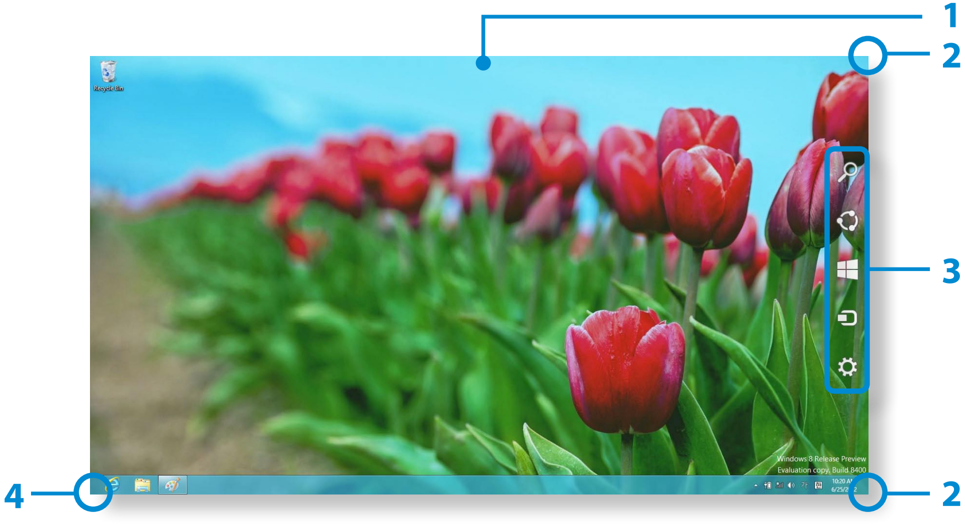

1
2
3
4
Start
manual123
Mail
Calendar
Internet Explorer
Store
People
Photos
Maps
SkyDrive
Messaging
Xbox LIVE Games
Video
Music
Travel
Weather
Finance
Desktop
News
Sports
Camera
5
6
7
3

1	**Start Screen**	Refers to the default Start screen of Windows 8.
2	**App**	Refers to the apps that are currently installed.
3	**Displaying the Charms**	The Charms is hidden at the right of the screen. Place your mouse pointer at the edge of the top or bottom right of the screen to display the Charms. Or you place your finger on the right edge of the touch pad and drag your finger toward the center, the Charms menu appears.
4	**User Account**	This refers to the currently used user account.
5	**Charms**	This refers to the menu that allows you to use functions such as Search, Share, Start, Device and Settings.
6	**Desktop**	Switches to Desktop mode.
7	**Camera**	Allows you to take pictures or make a movie.

Screen At a Glance

Desktop

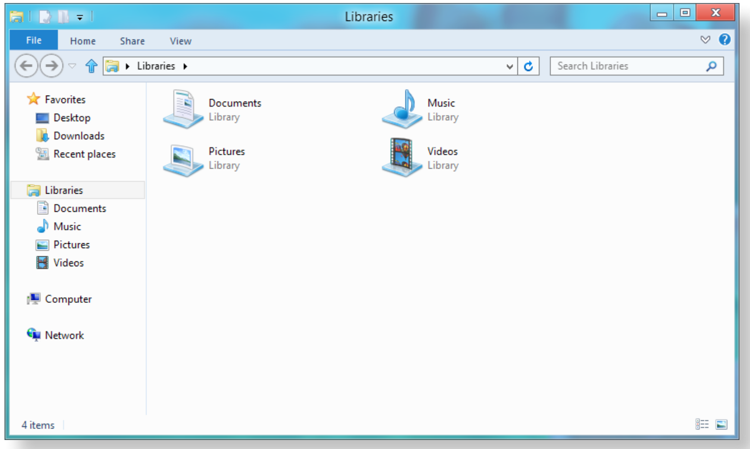
This provides similar functions to those provided by the Desktop in prior Windows versions.


1
2
3
Windows 8 Release Preview
Evaluation copy. Build 8400
4
2

1	**Desktop**	Refers to the Desktop.
2	**Displaying the Charms**	The Charms is hidden at the right of the screen. Place your mouse pointer at the edge of the top or bottom right of the screen to display the Charms.
3	**Charms**	This refers to the menu that allows you to use functions such as Search, Share, Start, Device and Settings.
4	**Switching to the Start Screen**	Click the corner of the bottom left of the screen to switch to the Start screen.

Displaying Documents and Files

Click Windows Explorer in the taskbar on the Desktop to search for documents and files.


Libraries
File
Home
Share
View
Libraries
Search Libraries
Favorites
Desktop
Downloads
Recent places
Libraries
Documents
Music
Pictures
Videos
Computer
Network
Documents
Library
Music
Library
Pictures
Library
Videos
Library
4 items

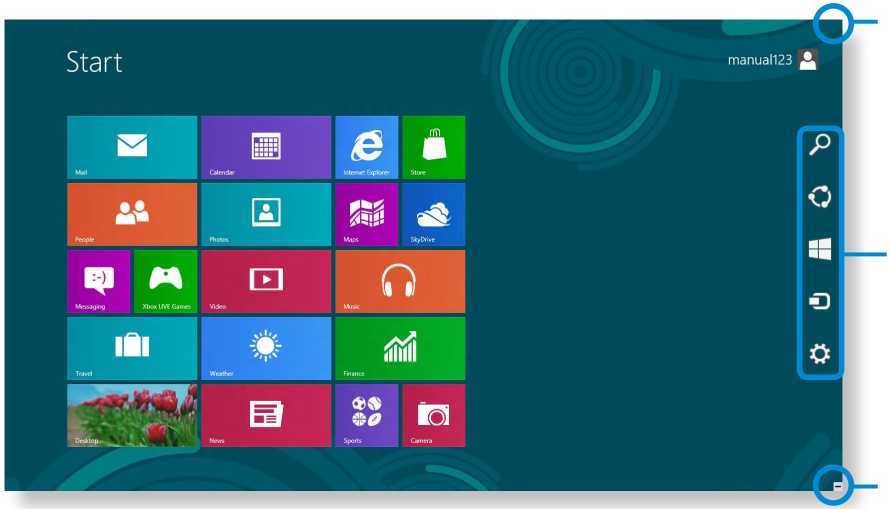
Using the Charms

The Charms is a new type of menu that combines the Start menu with the Control Panel of existing Windows.

The Charms allows you to quickly configure the device(s) connected to your computer, search for App(s)/file(s), and use the sharing function, etc.

Activating the Charms

If you move your mouse pointer to the top or bottom right corner of the screen, the **Charms** appears.


Start
manual123
Mail
Calendar
Internet Explorer
Store
People
Photos
Maps
SkyDrive
Messaging
Xbox LIVE Games
Video
Music
Travel
Weather
Finance
Desktop
News
Sports
Camera

Displaying the Charms Menu

Charms

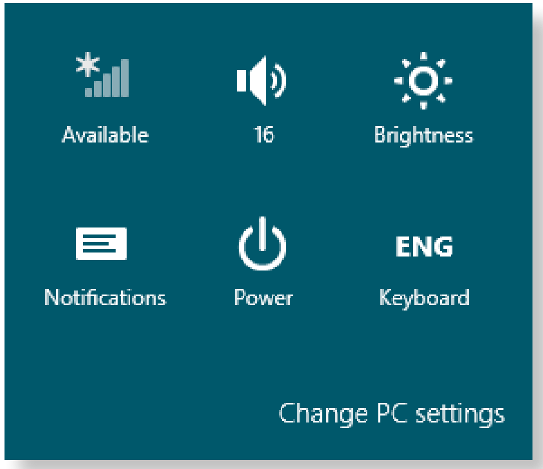
Displaying the Charms Menu

Search	If you want to search for a program or file in the App(s)/ Settings/File(s), simply enter a keyword in the Search charm and start Search. You can also search within an App or on the Web.
Share	You can use this menu to transfer a picture or file to another user. You can easily share pictures or files with other users simply by associating multiple Apps with the Share charm.
Start	You can move to the Start screen.
Device	As this allows you to move directly to a desired device, you can handle tasks such as importing pictures from a digital camera, streaming a video to your TV or transferring files to a device on the current screen.
Settings	The Settings charm allows you to perform basic tasks such as adjusting the volume, turning off the PC, etc. If you select the Settings charm while a specific App is running, the settings for the currently running App are displayed.

Changing the Settings

Frequently used Windows menus are collected.

Click the **Charms** > **Settings**.


Available
16
Brightness
Notifications
Power
ENG
Keyboard
Change PC settings

Icon	Name	Function Description
📶	Wireless Network	You can connect to a wireless network. Select a wireless network to connect to.
🔊	Adjusting the Volume	You can adjust the volume or mute the sound.
☼	Screen Brightness	You can adjust the screen brightness.
▤	Notice	You can set the interval at which an App sends notices.
⏻	Power	You can turn off your computer or select the Power Options.
ENG	Language	You can set the Language.

Change PC settings

You can change more settings.

Using Apps

An App refers to an application program (hereafter referred to as an **App**). In a larger sense, it refers to all the software programs installed on the operating system.

Windows 8 provides basic Apps for frequently performed tasks.

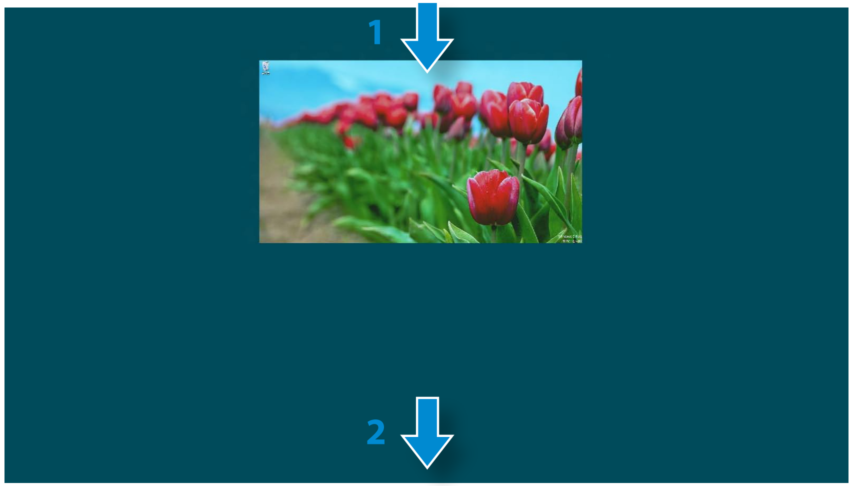
Starting/Exiting an App

Click on an App in the Start screen to activate it.

To exit the App

1 Move your mouse pointer to the top of the screen. Your mouse pointer changes to a **hand shape**.

2 Click and hold your mouse button and then drag it to the bottom of the screen. The App moves downward and disappears and exits.



Using Apps

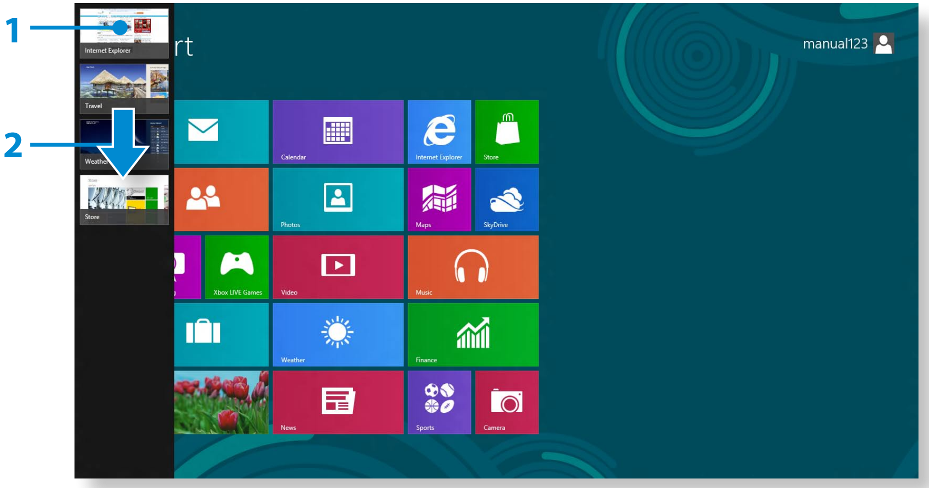
Displaying Currently Running App(s)

1 Move your mouse pointer to the top left corner of the screen to display the last run App.

2 Then, move your mouse pointer down to display a list of the currently running Apps in order.

3 Click on an App in that list or drag it to the center of the screen. Now, you can check the selected App which is currently running.

Right-click over the App in the list and click **Close** to exit the App.


1
2
rt
manual123
Internet Explorer
Travel
Weather
Store
Calendar
Internet Explorer
Store
Photos
Maps
SkyDrive
Xbox LIVE Games
Video
Music
Weather
Finance
News
Sports
Camera

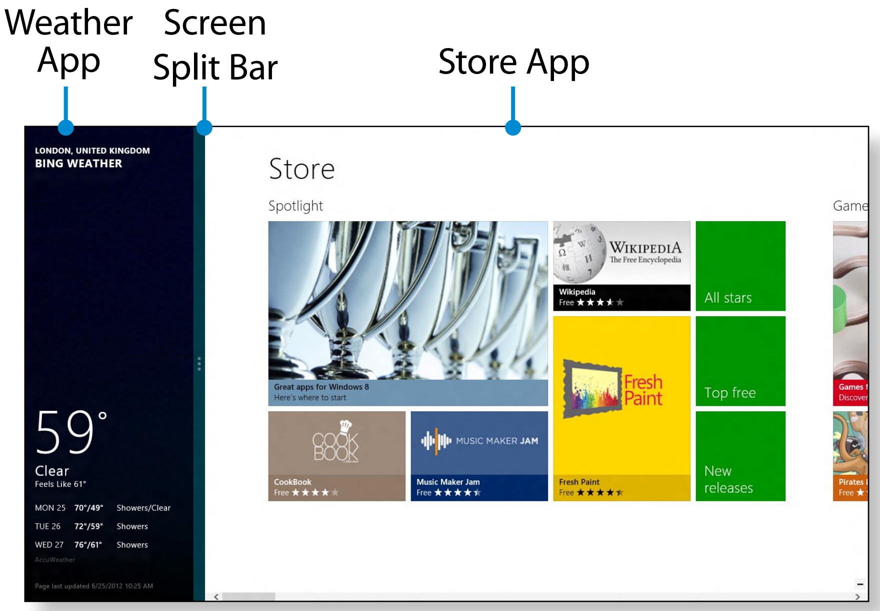
Running Two Apps at the Same Time

1 Select the **Apps** in the **Start screen**.

2 Move your mouse pointer to the top of the screen. Your mouse pointer changes to a **hand shape**.

3 If you click and hold your mouse button and move left or right, you can split the screen to display multiple Apps.

4 Move the **Screen Split Bar** to change the screen split ratio. Supported screen split ratios are 3:7 or 7:3.


Weather App
Screen Split Bar
Store App
LONDON, UNITED KINGDOM
BING WEATHER
59°
Clear
Feels Like 61°
MON 25 70°/49° Showers/Clear
TUE 26 72°/59° Showers
WED 27 76°/61° Showers
AccuWeather
Page last updated 6/25/2012 10:25 AM
Store
Spotlight
Great apps for Windows 8
Here's where to start
Wikipedia
Free
All stars
Fresh Paint
Top free
CookBook
Free
Music Maker Jam
Free
Fresh Paint
Free
New releases
Games
Pirates
Free

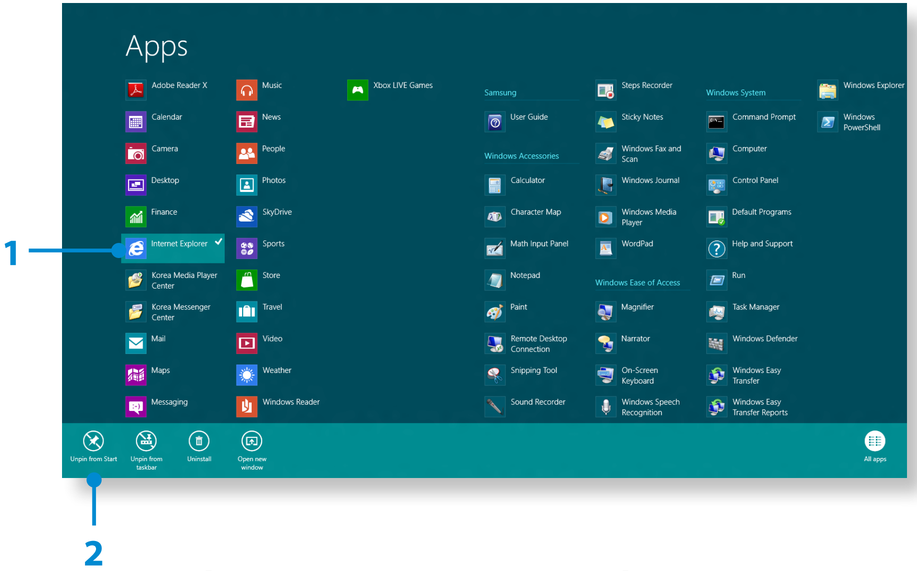
Ex) If you run the Weather App and Store App at the same time

Adding/Removing an App to/from the Start Screen

Click **Start screen > right-click** your mouse button.
Click **All Apps** at the bottom of the screen to display all the Apps that are currently installed.

1 If you right-click over the App to be added, the relevant menu is activated at the bottom of your screen.

2 Click **Pin to start** or **Unpin from Start**.


1
2
Apps
Adobe Reader X
Calendar
Camera
Desktop
Finance
Internet Explorer
Korea Media Player Center
Korea Messenger Center
Mail
Maps
Messaging
Music
News
People
Photos
SkyDrive
Sports
Store
Travel
Video
Weather
Windows Reader
Xbox LIVE Games
Samsung
User Guide
Windows Accessories
Calculator
Character Map
Math Input Panel
Notepad
Paint
Remote Desktop Connection
Snipping Tool
Sound Recorder
Steps Recorder
Sticky Notes
Windows Fax and Scan
Windows Journal
Windows Media Player
WordPad
Windows Ease of Access
Magnifier
Narrator
On-Screen Keyboard
Windows Speech Recognition
Windows System
Command Prompt
Computer
Control Panel
Default Programs
Help and Support
Run
Task Manager
Windows Defender
Windows Easy Transfer
Windows Easy Transfer Reports
Windows Explorer
Windows PowerShell
Unpin from Start
Unpin from taskbar
Uninstall
Open new window
All apps

Ex) When removing an App in the Start screen

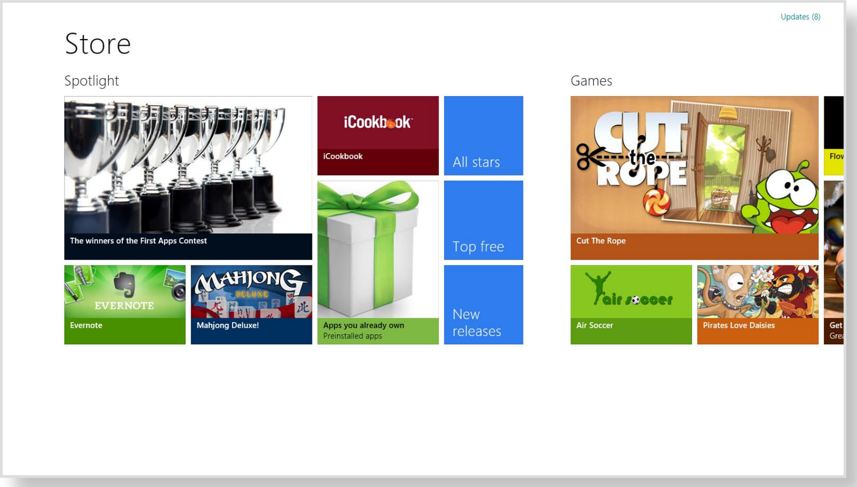
Using Apps

Using the Windows Store

If you run the App Store in the Start screen, the Apps in the Windows Store are displayed.

However, a Microsoft account is required to purchase App(s) in the Windows Store.

Continue after registering your Microsoft Account in the Charms.


Updates (8)
Store
Spotlight
The winners of the First Apps Contest
iCookbook
iCookbook
All stars
Top free
New releases
Evernote
Mahjong Deluxe!
Apps you already own
Preinstalled apps
Games
Cut The Rope
Air Soccer
Pirates Love Daisies

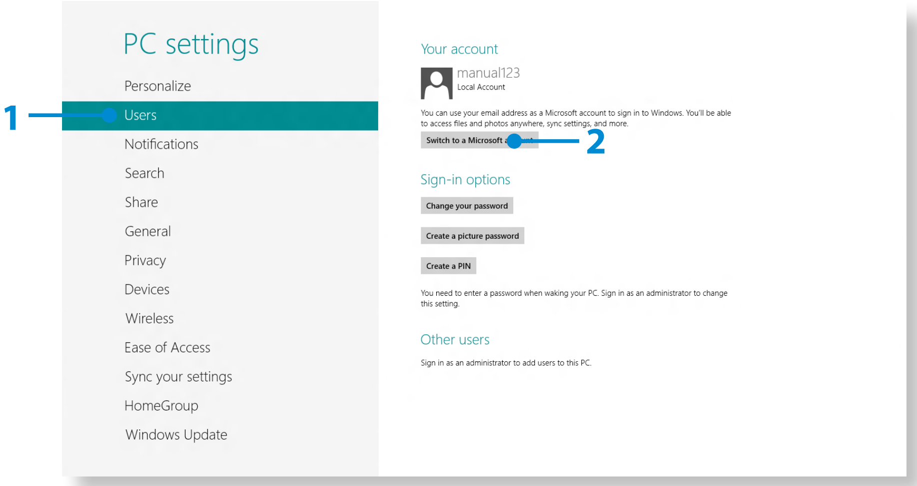
Samsung cannot solve errors occuring with other apps installed from the Windows Store. Contact customer support for the app directly.

Configuring your Microsoft Account

A Microsoft Account allows you to synchronize your settings with other device(s) running Windows 8 online allowing you to share file(s) or settings.

You should register a Microsoft Account to download or purchase App(s) from the Store.

1. Run the **Charms** and click **Settings** > **Change PC Settings**.
2. Click **Users** > **Your account** > **Switch to a Microsoft account**.
3. Register your account through the following relevant procedures.


PC settings
Personalize
Users
Notifications
Search
Share
General
Privacy
Devices
Wireless
Ease of Access
Sync your settings
HomeGroup
Windows Update
1
Your account
manual123
Local Account
Switch to a Microsoft account
2
Sign-in options
Change your password
Create a picture password
Create a PIN
Other users

You can use your email address as a Microsoft account to sign in to Windows. You'll be able to access files and photos anywhere, sync settings, and more.

You need to enter a password when waking your PC. Sign in as an administrator to change this setting.

Sign in as an administrator to add users to this PC.

Windows Hot Key Function

You can use the following convenient hot keys in Windows 8.

Function	Hot Keys	Function Description
Displaying the Start Screen	Windows Key	Switches to Start mode.
Displaying the Desktop	Windows Key + D	Switches to Desktop mode.
Running the Charms	Windows Key + C	Activates the Charms.
Locking the Screen	Windows Key + L	Locks the screen.
Opening the Ease of Access Center	Windows Key + U	Opens the Ease of Access Center configuration.
Opening the Second Screen Settings	Windows Key + P	Opens the External Monitor Settings menu.
Opening the Advanced Management Tool	Windows Key + X	Opens the Advanced Management Tool.
Exit App	Alt + F4	Exits the currently running App.

Using the Touch Screen (For touch screen models only)

You can use the computer using the touch screen only, without using the keyboard and mouse.
The touch screen function is only supported for models which have the function installed at the factory.

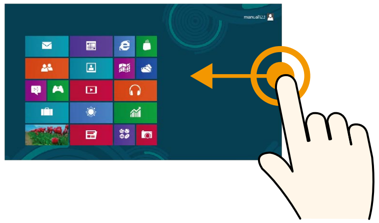
- If you are using your computer for a long period of time, it is recommended using a keyboard and mouse.
- Make sure to operate your touch screen using your finger. If you operate your touch screen with a hard object, it will not work.
- If there any foreign substances such as insects or water on the touch screen, your touch screen will not work properly.

Using the Touch Screen

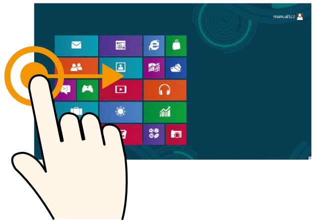
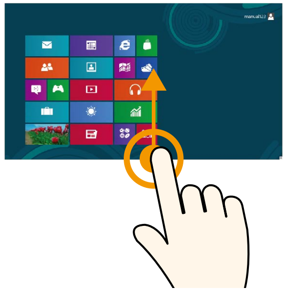
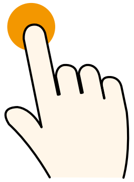
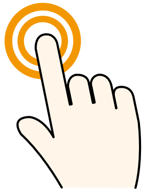
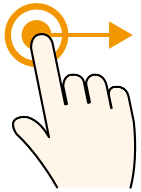
- This function is provided by touch screen models running Windows 8 and will only work for some applications.
- In addition, note that the supported functions are dependant on the application.

Learning basic touch screen operations

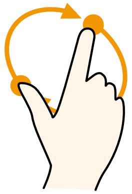
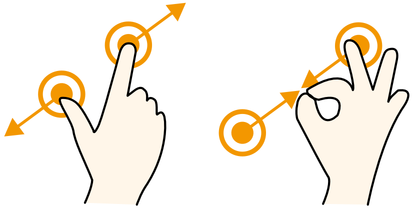
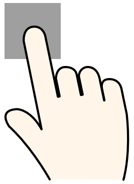
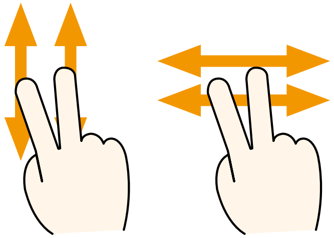
You can easily learn how to use the touch screen conveniently.

Touch Operation		Function Description
	Dragging from the right edge toward the center	Displays the Charms menu which is hidden at the right of the screen.

Using the Touch Screen (For touch screen models only)

Touch Operation		Function Description
	Dragging from the left edge toward the center	Displays the last run App.
	Dragging from the bottom edge upward or from the top edge downward	Displays the options for the currently running application.
	Touching slightly (Clicking)	Slightly press with your finger to select an item. (If you slightly touch a specific menu, option, application icon, etc. on the screen, the corresponding capability is activated.)
	Touching twice (Double-clicking)	Slightly press twice with your finger to select an item.
	Touching and dragging	Moves the selected target or moves to the next page. You can draw a picture or write some letters with this operation.

Using the Touch Screen (For touch screen models only)

Touch Operation		Function Description
	Rotating with more than 2 fingers	Rotates the selected target.
	Spreading 2 fingers widely or bringing them towards each other	Zooms in or out of the target.
	Touching and holding for a while (Right-clicking your mouse)	Provides the same function as right-clicking your mouse button. Displays the additional options which can be set for the selected target or more detailed information.
	Touching and dragging 2 fingers up/down, left/right (Scrolling)	Moves up/down, left/right. Provides the same function as scrolling your mouse.

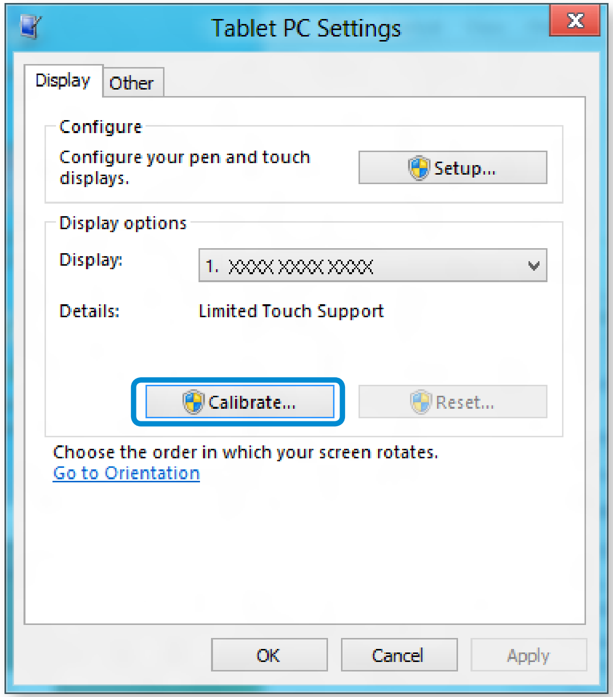
Using the Touch Screen (For touch screen models only)

Screen Calibration

When you use the touch screen for the first time or the pointer on the screen does not precisely match the points you touch, calibrate the touch screen using the **Tablet PC Settings** menu.

The calibration process for the touch screen may differ depending on the operating system and may not be available in some operating systems. The following descriptions assume the Windows 8 operating system.

1 Click **Charms menu** on the Desktop > **Settings** > **Control Panel** > **Hardware and Sound** > **Tablet PC Settings** > **Calibrate**.



Configure your pen and touch displays.

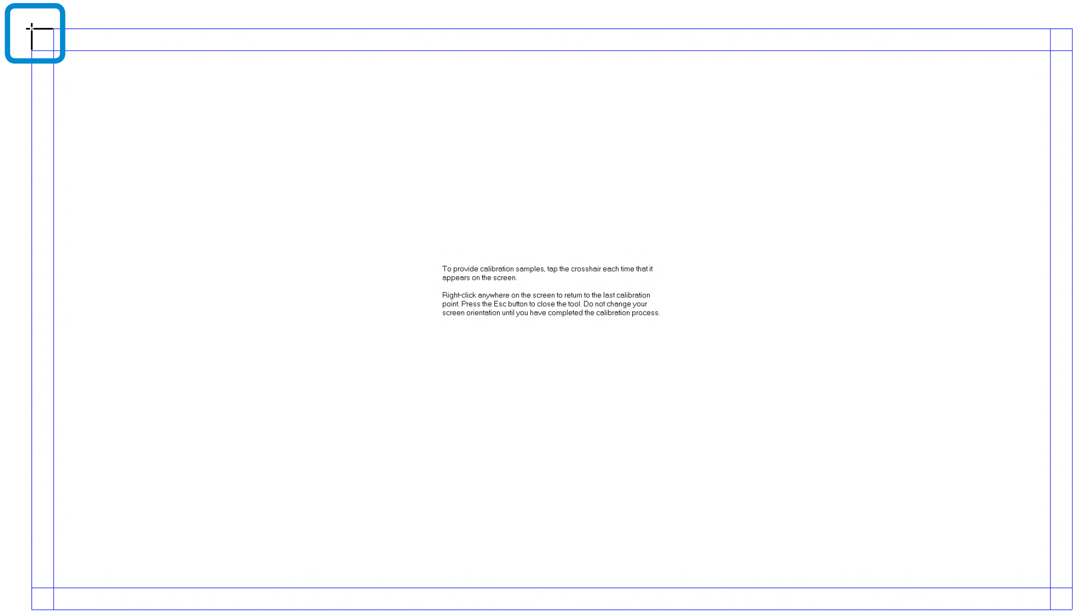
Display: 1. XXXX XXXX XXXX

Details: Limited Touch Support

Choose the order in which your screen rotates.

2 Select the screen type to calibrate. If the **Calibration** screen appears, touch the point represented by the “+” mark and then remove your finger.

The “+” mark appears sequentially from the top left to the bottom right of the screen.



To provide calibration samples, tap the crosshair each time that it appears on the screen.

Right-click anywhere on the screen to return to the last calibration point. Press the Esc button to close the tool. Do not change your screen orientation until you have completed the calibration process.

3 When the **Do you want to save the calibration data?** window appears, click **Yes**.

The touch screen input points are calibrated.

Using the Touch Screen (For touch screen models only)

Entering Characters

You can enter characters using the **keyboard** and the **Tablet PC Input Panel**.

Entering characters may differ depending on the operating system and is not supported by some operating systems.

If you are using your computer for a long period of time, it is recommended using the keyboard.

Entering characters is explained using an example with notepad.

Using the Tablet PC Input Panel

The **Tablet PC Input Panel** is an onscreen keyboard provided by **Windows**.

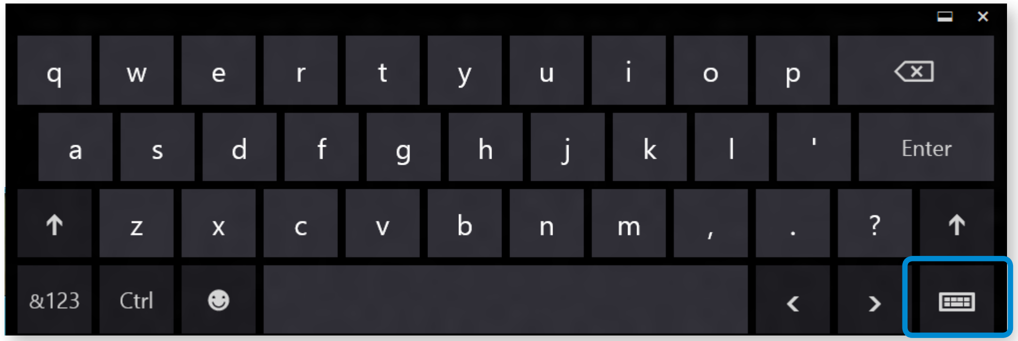
Follow the descriptions and illustrations on how to use the **touch keyboard** and **handwriting mode**.

1 From the **Start Screen**, right-click any area and select **All apps** in the bottom right corner.

Then, click **Notepad**.

2 Put your hand on the Notepad screen to display the cursor.

3 On the Desktop, press the at the right of the taskbar to display the **Tablet PC Input Panel**.


q
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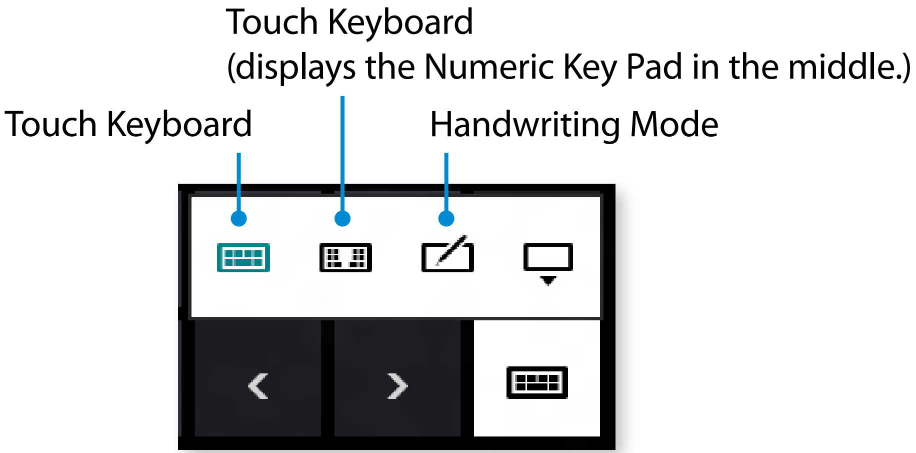

Touch Keyboard
(displays the Numeric Key Pad in the middle.)
Touch Keyboard
Handwriting Mode
<
>

[Input Mode]

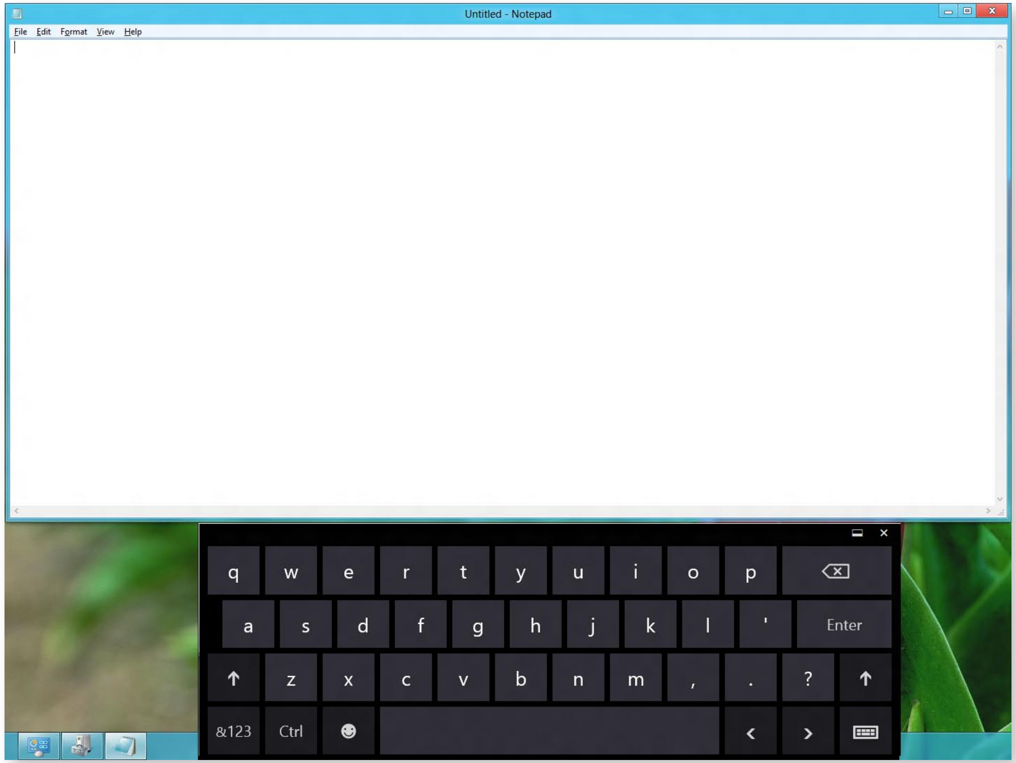
Using the Touch Screen (For touch screen models only)

Entering characters using the Touch Keyboard

The **Touch keyboard** has the standard keyboard layout which allows you to select keys to enter characters.

1 Press the **Touch Keyboard** icon in the Tablet PC Input Panel.

2 Press the keys to enter your characters.


Untitled - Notepad
File Edit Format View Help
q w e r t y u i o p
a s d f g h j k l ' Enter
z x c v b n m , . ?
&123 Ctrl < >

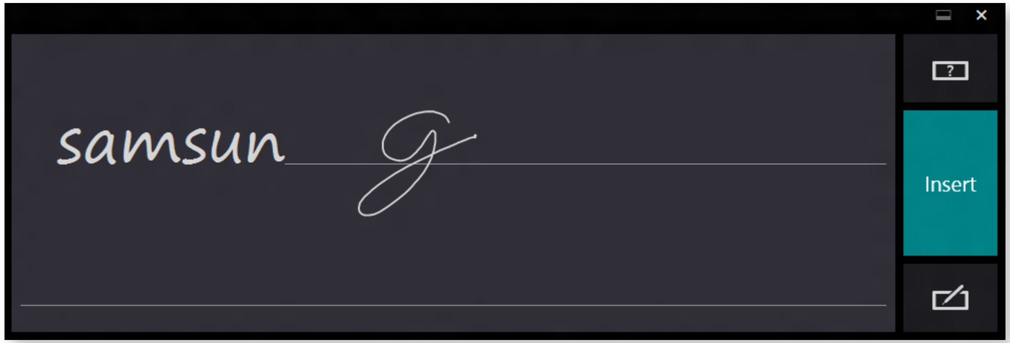
Entering characters in Handwriting Mode

You can enter characters by writing them in the Handwriting Mode Input Panel on the touch screen.

Handwriting Mode may not be available in some languages.

1 Press the **Handwriting Mode** icon in Tablet PC Input Panel.

2 Write characters in the input area of the **Handwriting Mode Input Panel** on the touch screen.


samsung
Insert

3 Press the **Insert** button to enter characters.

Using the Touch Screen (For touch screen models only)

Touch screen use precautions

- Use the touch screen with clean and dry hands. In a humid environment, remove the moisture from your hands and the touch screen surface before use.
- Avoid directly spraying liquid cleansing solution onto the touch screen. The liquid solution may enter the touch screen through the bottom edge.

  When using a liquid cleansing solution, dampen a cloth in the solution and clean the screen with the cloth (a cleansing solution or cloth containing abrasives may damage the touch screen.)
- Do not apply a severe impact to the touch screen or press the screen with a sharp object such as a ball-point pen.

  This may damage the touch screen.
- If your finger only touches the touch screen slightly, your touch may not be recognized.
- When pressing the touch screen, press over an item precisely taking care not to press other items.
- The touch screen sensors are located at the edges of the touch screen.

  When installing a protective cover and accessory, be careful not to cover the edges of the touch screen.
- Be careful not to damage the edges of the touch screen.

  If the edges of the touch screen are damaged, the touch screen may not work properly.
- If the touch screen is contaminated by a foreign substance such as a bug or water, the touch screen will not work properly. Use your touch screen after removing all foreign substances.

Chapter 3.
Using the computer

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Keyboard

Shortcut key functions and procedures are discussed in the following sections.

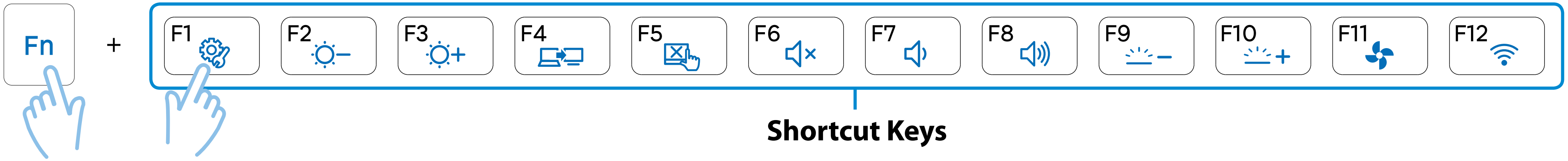
- The keyboard image may differ from the actual keyboard.
- The keyboard may differ depending on your country. The following mainly describes the shortcut keys.

Shortcut Keys

Press both the **Fn** key and hot key at the same time.

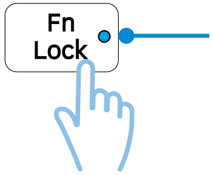
Alternatively, press the **Fn Lock** key as well as a hot key to use the hot key functions more easily.

▶ Method 1


Fn
+
F1
F2
F3
F4
F5
F6
F7
F8
F9
F10
F11
F12
Shortcut Keys

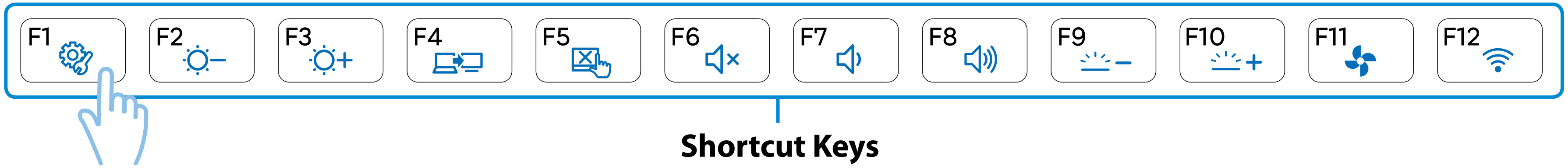
▶ Method 2

1



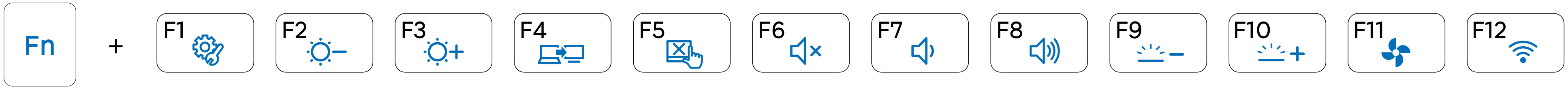
Fn Lock On: The **Blue LED** is turned **On**

2

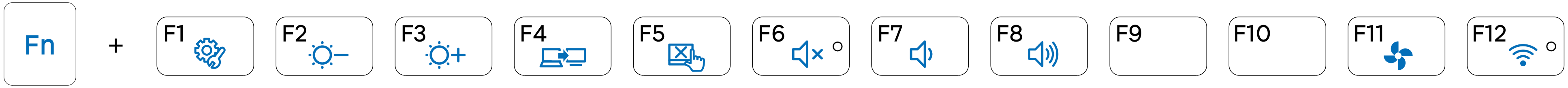

F1
F2
F3
F4
F5
F6
F7
F8
F9
F10
F11
F12
Shortcut Keys

Keyboard

▶ A type model



▶ B type model



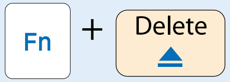
Shortcut Keys	Name	Function
F1	Settings	The Samsung software control program, the **Settings**, is launched.
F2 F3	Screen Brightness Control	Controls the screen brightness.
F4	LCD/External Monitor	Switches the screen output to the LCD or external monitor when an external monitor (or TV) is connected to the computer.
F5	Touchpad	Turns the Touchpad function on or off. When using an external mouse only, you can turn the Touchpad off.
F6 or F6	Mute	Press this button to turn the audio on or off. If the audio is turned off, the LED on the button is turned on (for available models only, optional).

Keyboard

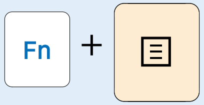
Shortcut Keys	Name	Function
F7 🔉 F8 🔊	**Volume Control**	Controls the volume.
F9 – F10 +	**Keyboard Backlight Brightness Control (Optional)**	Controls the brightness of the keyboard backlight. This function is only available for models that support the keyboard backlight feature.
F11	**Silent Mode**	Reduces the Fan noise so that users can use the computer without hearing noise.
F12 or F12 ○	**Airplane Mode**	Turns all wireless network devices on or off. (Only for models with a wireless network device.)

Other Function Keys (Optional)

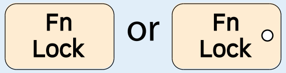
Eject the CD (DVD).



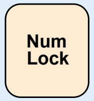
Performs the right-click mouse function (touchpad).



If you press the **Fn Lock** key, you can use the hot key functions without pressing the **Fn** key.



If you press the **Num Lock key**, you can use the numeric keys.



If the hot keys do not work properly, you have to install the **Settings**.

Touchpad

The touchpad provides the same function as a mouse and the left and right buttons of the touchpad plays the role of the left and right buttons of a mouse.

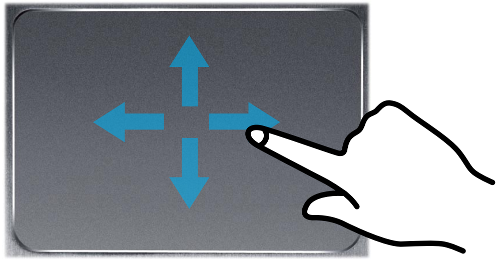
- Touch the touchpad with your fingers only.
  Anything other than your fingers, such as a ball-point pen, will not be recognized by the touchpad.
- If you touch the Touchpad or press the Touchpad buttons while booting up, the Windows boot time may be extended.

Basic Touchpad Functions

Moving the cursor on the screen

Place your finger on the touchpad slightly and move your finger.

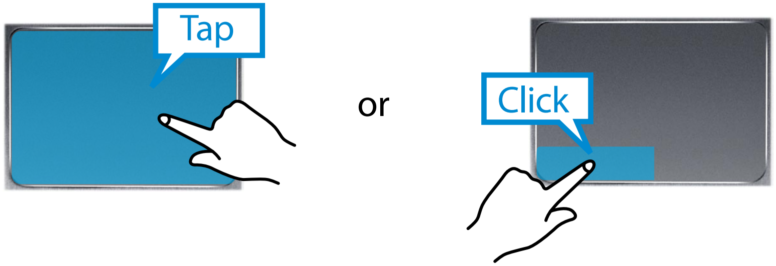
The mouse cursor will move accordingly. Move your finger in the direction you wish to move the cursor.



Click Function

Place a finger on the touchpad and click on an item once.

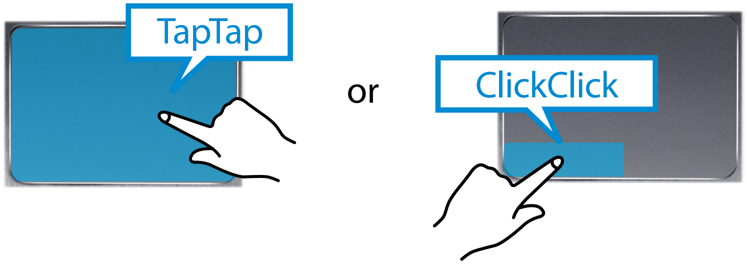
Alternatively, press the left button once quickly and release it.



Double-Click Function

Put your finger on the touchpad and quickly tap twice with your finger on an item you want.

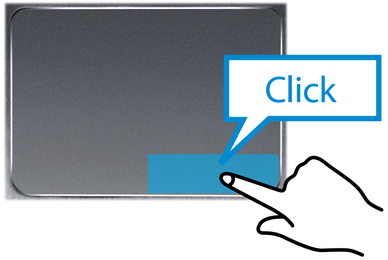
Alternatively, press the left touchpad button twice quickly.



Right Button Function

This corresponds to clicking the right mouse button.

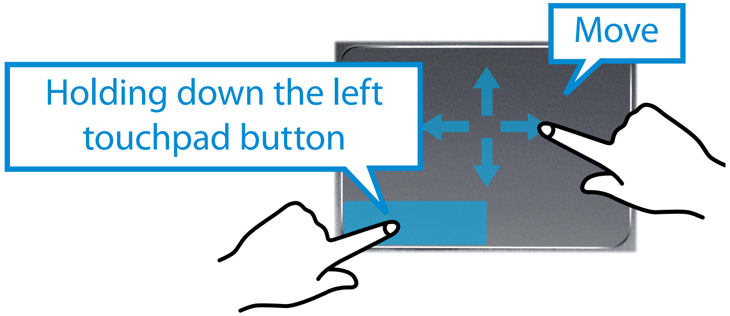
Press the right touchpad button once. The corresponding pop-up menu appears.



Drag Function

Dragging refers to moving an item to another place after selecting it.

Press and hold down the left touchpad button over an item you want to drag and move the item to the new location.


Move
Holding down the left touchpad button

The Gesture Function of the Touchpad (Optional)

The Touchpad Gesture function may not be provided and the version of the function may differ depending on the model. Some usage procedures may differ depending on the version.

Configuring the Gesture Function

Some gesture functions may not be configured.

In this case, you can configure them using the following path.

1. On the Desktop, click the **Charms menu > Settings** ⚙ **> Control Panel > Hardware and Sound > Touchpad** icon.

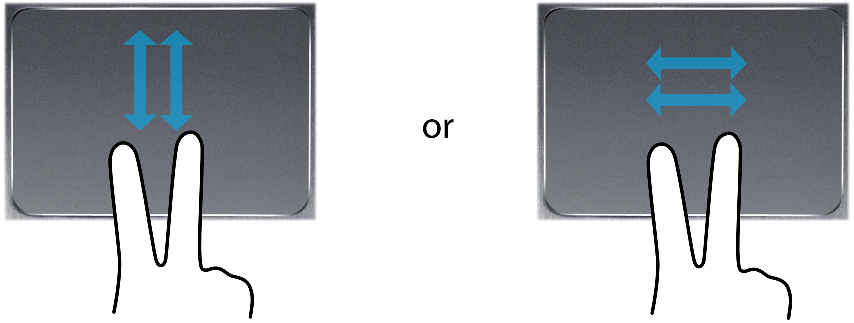
2. When the Touchpad Settings window appears, click the corresponding item in the **Select an Item to Configure** setting to select the checkbox for the corresponding item.

To cancel the Gesture function, deselect the checkbox for the corresponding item in the Touchpad Settings window.

The Scroll Function

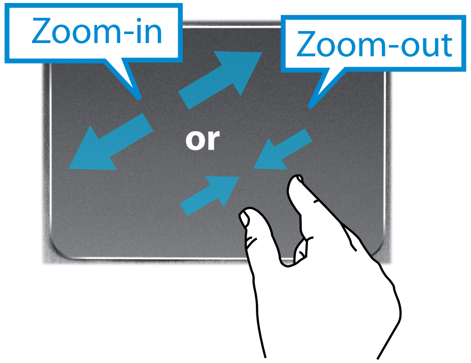
This function is the same as the scroll area of the Touchpad.

If you place two fingers over the Touchpad and move them up, down, left or right, the screen is scrolled up, down, left or right accordingly.



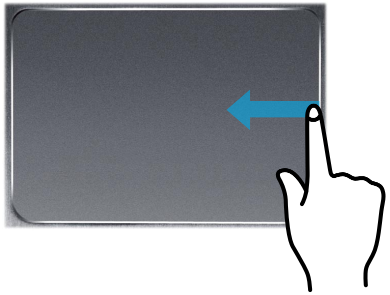
Zoom Functions

If you place two fingers over the Touchpad together or apart, the current image or text is zoomed in or out.



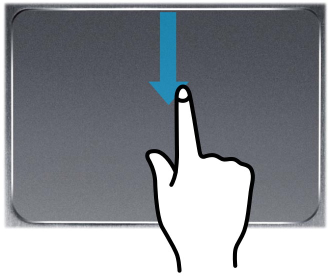
Charms Menu Activating Function

If you place your finger on the right edge of the touch pad and drag your finger toward the center, the Charms menu appears.



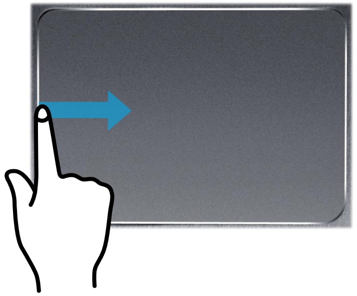
Displaying Additional Menu(s) of a Currently Running App

Place your finger at the edge of the top area on the touch pad and drag your finger toward the center, and the menu of the currently running App appears.



Last Run Window Opening Function

Place your finger on the left edge of the touch pad and drag your finger towards the center to activate a previously operating program from among the currently running programs.



Touchpad On/Off Function

Locking with shortcut keys

If you want to use the mouse only without using the touchpad, you can turn the touchpad off.

To lock the touchpad function, press the Fn + F5 keys.

> You can set the touchpad and touchpad button settings in the tabs that appear when clicking **Charms menu on the Desktop > Settings > Control Panel > Hardware and Sound > Touchpad**.

Auto-locking when connecting USB mouse

If an external USB pointing device is connected in the **Charms menu in Desktop > Settings > Control Panel > Hardware and Sound > Touchpad**, check Disabled to disable the touchpad feature when connecting to the USB mouse.

> This auto-locking function is not provided for some models.

CD Drive (ODD, Optional)

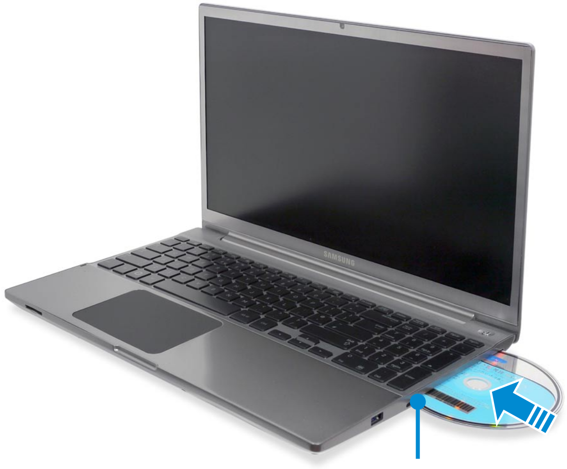
An optical disk drive is optional and may differ depending on your computer model. For detailed specifications, refer to the catalogue.

- Do not insert a cracked or scratched CD.
  Otherwise, the CD may break and damage the optical disk drive when the CD rotates at a high speed.
- When you clean a CD or DVD title, wipe with a soft cloth from inside to outside.
- The figures used for the description are of a representative model. Therefore the figures may differ from the real ones.
- Using a CD that is not in the shape of a circle is not recommended.
- The Slot Load ODD does not support mini discs (8cm).

Inserting and Ejecting a CD

1 Insert the disc into the CD Drive so that the top of the disc faces upwards.

When 90% of the disc is inserted into the drive, the disc is automatically loaded into the drive.



- Do not pull or push the disc by force when the disc is being automatically ejected or inserted. This may cause a problem when ejecting or inserting a disc.
- To insert a disc, insert the disc into the center of the drive with the appropriate pressure. If you insert a disc and apply excessive force to one side of the tray, it may result in a problem.

CD Drive (ODD, Optional)

2 To eject a disc, press the Fn + Delete key combination.

Alternatively, click **Start > Computer > CD Drive**, right-click over the CD Drive and then select **Eject** from the popup menu.

Then the disc operation stops and the disc is ejected from the CD Drive.

- The Delete key is optional.
- The Fn + Delete key combination works in Windows.

  However, it will not work during or just after booting up or before the **Settings** is launched in Windows.
- If it does not work in Windows, double-click **My Computer**, right-click over the **CD Drive** and select **Eject** from the popup menu to eject a CD.
- A CD drive's reading and writing speed may differ depending on the condition and type of the media.

Multi Card Slot (Optional)

Using the multi card slot, you can read and write data to cards.

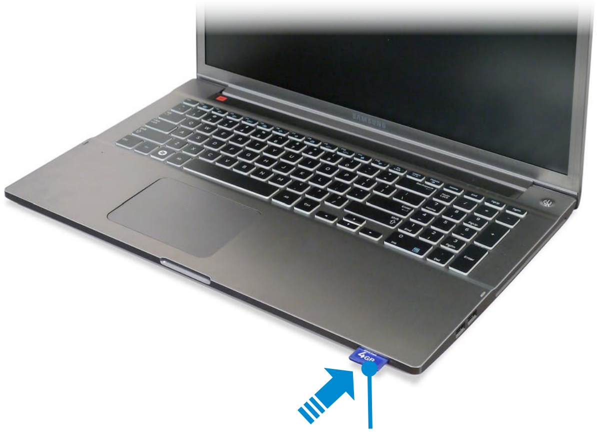
You can use a card as a removable disk and conveniently exchange data with digital devices such as a digital camera, digital camcorder, MP3, etc..

- Supported Cards : SD Card, SDHC Card, SDXC Card
- You have to additionally purchase a multi card with the necessary capacity depending on your requirements.
- You can use a multi card just like any data storage device. A copyright protection function is not supported.
- Since you can lose a card when moving the computer, keep the card separately.
- The figures used for the description are of a representative model. Therefore the figures may differ from the real ones.
- If a slot protection dummy card is inserted into your computer, remove the dummy card before using the computer.
- These descriptions are written based on Windows 8, the latest operating system. Therefore, some descriptions and figures may differ from your operating system. But as the usage is similar to other Windows operating systems, you can use these descriptions for reference.

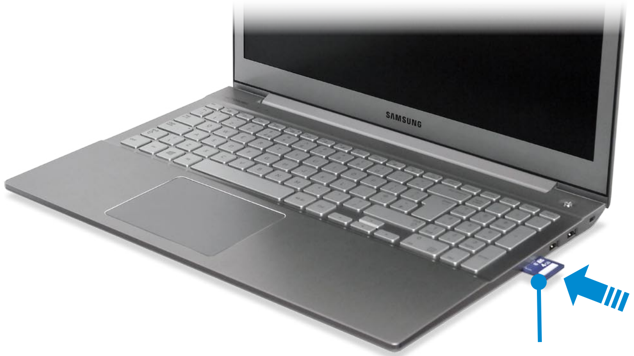
Using the card

1 Insert the card into the multi card slot in the indicated direction.

► **For 17.3 inch models**

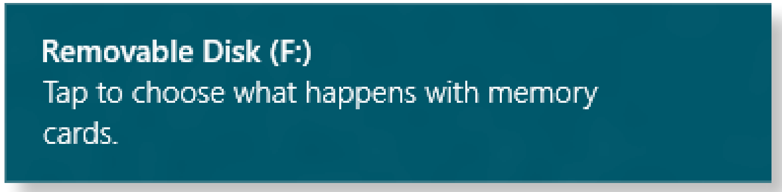


► **For 15.6 inch models**



Multi Card Slot (Optional)

2 The following message appears on the top right. Click to **open the folder and click** View Files.



Removable Disk (F:)
Tap to choose what happens with memory cards.

If a message appears to notify you of any problem, click the corresponding window > **Continue without Scanning**. You can perform the following process described in No. 3.

3 **Windows Explorer** runs on the Desktop. You can save, move and delete data on the corresponding drive.

Using a Mini SD

Since the above cards are too small, you cannot insert the cards into the slot directly.

Insert the card into the dedicated adapter (available from most electronic retailers) and then insert the adapter into the multi card slot.

To remove a memory card

Remove the card as following depending on the model.

Push the card to eject it. Then, hold the tip of the card and pull it. Alternatively, just hold the end of the card and remove it.

To format a memory card

When using the memory card for the first time, you must format the card before using it.

! Formatting a card deletes all data saved on the card. If the card includes data, backup the data before formatting it.

1 Click the **Windows Explorer** icon in the taskbar on the Desktop.

2 Right-click over a card drive with the touchpad and select **Format**.

3 Click **Start** to the formatting.

!
- To use a card to exchange data with a digital device such as a digital camera, formatting the data using the digital device is recommended.
- When you try to use a card, which is formatted in the computer, in another digital device, you may have to format the card again in the device.
- You cannot format, write or delete data from a SD, or SDHC card with a write protection tab when it is in the Lock position.
- Inserting and removing a memory card repeatedly may damage the memory card.

Connecting an External Display Device (Optional)

If you connect an external display device such as a monitor, TV, projector, etc., you can view the picture on the wider screen of the external device when you give a presentation or watch a video or movie.

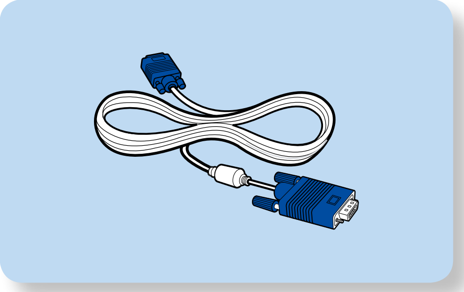
Supported ports are Analog monitor ports (D-SUB), Digital video/ audio ports (HDMI) and Mini DisplayPorts (Mini DP).

The visual quality increases in the order of port connection: HDMI = Mini DP > D-SUB. Use the port which supports the optimal visual quality when several ports are available.

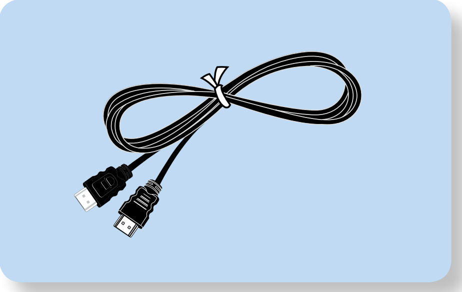
Before you start, check the port and cable of the external display device and then connect the display device to the computer.

About the connection cable

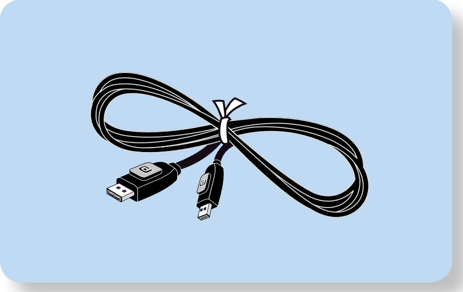
Users should additionally purchase the necessary connection cables.



Analog Monitor (D-SUB) Cable



HDMI Cable



Mini DisplayPort (Mini DP) Cable

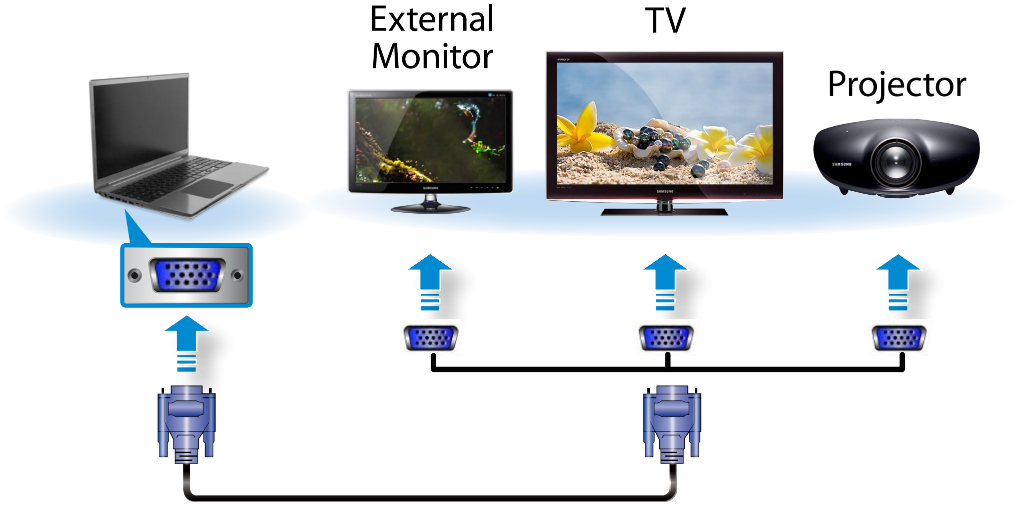
Connecting an External Display Device (Optional)

Connecting to the monitor port

You can experience a wider screen by connecting the computer to a monitor, TV or projector with a monitor port.

You can give better presentations by connecting the computer to a projector.

1 Connect the D-SUB port of the computer and the port of the monitor or TV with the monitor cable (15 pin).



2 Connect the power cord of the connected monitor, TV or projector and turn the power on.

Change your TV to external device mode when connecting to the TV.

3 Select **Charms menu > Devices** > **Second Screen**.

Select a desired monitor mode.

PC screen only The contents are only displayed on the PC monitor (current device).
Duplicate The contents of the current device are displayed on the external device as well.
Extend The screen of the current device is expanded to the external device.
Second screen only The contents are displayed only on the screen of the external device.

Alternatively, to set up dual view:

Open the **Display Settings** window in the Control Panel, select **Monitor 2** and select the **Expand to fit to this monitor** checkbox to set dual view. For more detailed information, refer to the Windows online help.

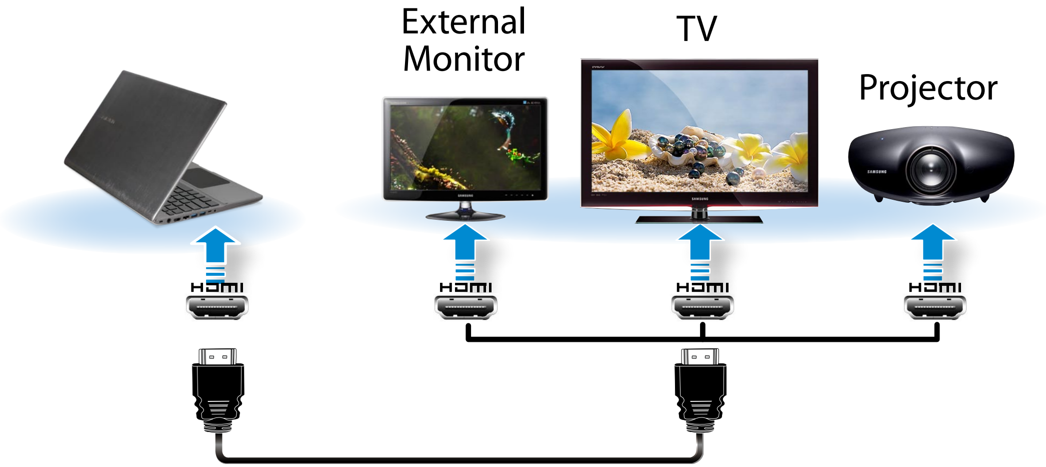
Connecting an External Display Device (Optional)

Connecting through the HDMI port (Optional)

By connecting the computer to a TV with a HDMI port, you can enjoy both a high visual quality and a high sound quality.

After connecting a TV through HDMI, you have to configure the screen and sound.

1 Connect the HDMI cable to the HDMI port of the TV.



- This is only supported for models that support a TV output port (HDMI).
- When a TV provides more than one HDMI port, connect the computer to the **DVI IN** port.
- When connecting the computer to a TV, switch the external input mode of the TV to **HDMI**.

2 Select **Charms menu > Devices** **> Second Screen**.

Select a desired monitor mode.

	PC screen only The contents are only displayed on the PC monitor (current device).
	Duplicate The contents of the current device are displayed on the external device as well.
	Extend The screen of the current device is expanded to the external device.
	Second screen only The contents are displayed only on the screen of the external device.

- External Monitor / TV is not supported in the DOS Command Prompt window.
- Simultaneous output to all 3 (LCD + CRT + HDMI) is not supported.

Connecting an External Display Device (Optional)

Using AMD Graphics Effectively (optional)

PowerXpress is Switchable Graphics technology that selectively enables either the internal or external graphics chipset depending on the program to extend the battery life time while maintaining the graphics performance.

This technology uses the internal graphics by default to reduce battery consumption and switches to the external graphics when the user uses some program functions that require a high graphics performance such as games and playing videos.

- This description is only for Windows 8 and models with AMD PowerXpress technology.
- If Windows XP is installed, you can only use Internal Graphics.

► Adding programs for PowerXpress graphics technology

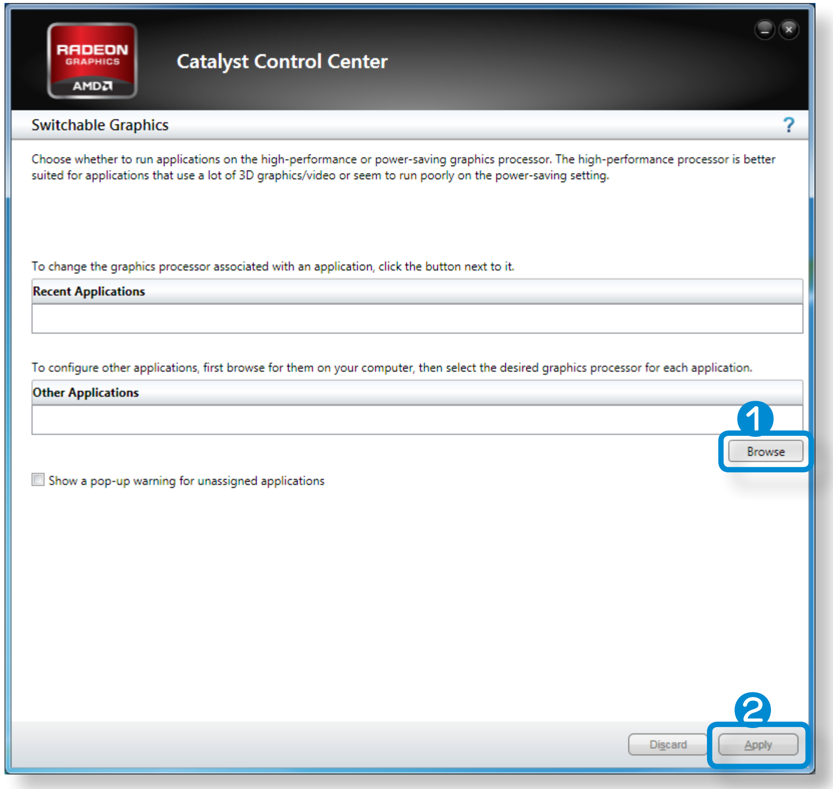
You have to register the program to run some functions of a program using the external graphics chipset.

Some programs are pre-registered. To register more programs, complete the following steps.

- Unregistered programs will run using the internal graphics chipset.
- You can register executable files (EXE) only.

1 Right-click on the Desktop and select **Configure Switchable Graphics** from the popup menu.

2 Click the **Browse** button and register the software and click the **Apply** button.



Choose whether to run applications on the high-performance or power-saving graphics processor. The high-performance processor is better suited for applications that use a lot of 3D graphics/video or seem to run poorly on the power-saving setting.

To change the graphics processor associated with an application, click the button next to it.

To configure other applications, first browse for them on your computer, then select the desired graphics processor for each application.

☐ Show a pop-up warning for unassigned applications

3 From now on some of the functions of the registered program that require a high graphics performance will run with the external graphics chipset without additional configuration.

Adjusting the Volume

You can adjust the volume using the keyboard and the volume control program.

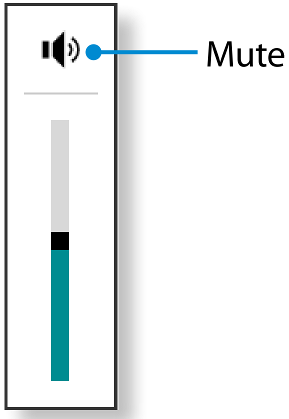
Adjusting the Volume using the Keyboard

Fn + F7 or Fn + F8

Alternatively, press the Fn + F6 key combination to turn the volume on or off.

Adjusting the Volume using the Volume Adjustment Program

Click the **Charms menu** > **Settings** > to adjust the control bar.



Using the Sound Recorder

The procedures to record sound using the Windows Recorder are described below.

1. Connect a microphone to the microphone jack.

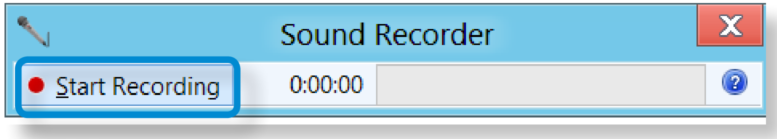
   You can also use the internal MIC.

2. Right-click over the **Volume** icon on the taskbar and select **Recording Device**.

3. Check if the microphone is set as the default recording device.

   If this is the case, it is already set as the default device. If not, right-click over the microphone and select **Set default**.

4. Right-click over the **Charms** menu > **Start** to click **All Apps** > **Sound Recorder**. Then press **Start Recording** to record.



Adjusting the Volume

Using SoundAlive (Optional)

The SoundAlive function enables you to experience more stereophonic sound using stereo speakers.

- SoundAlive is only supported in Windows 8.
- The software programs provider may vary, depending on your computer model.
- In addition, some pictures may differ from actual product depending on the computer model and software version.

1 Right-click over the **Volume** 🔊 in the taskbar on the Desktop and click **Play Device**.

(Alternatively, click the **Charms menu** on the **Desktop** > **Settings** ⚙ > **Control Panel** > **Hardware and Sound** > **Sound**.)

2 Right-click over the **Speakers** and select **Properties**.

3 Select the **SoundAlive** tab and select one of the modes.

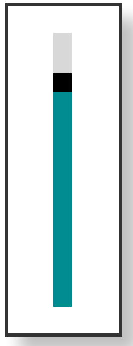
LCD Brightness Control

The screen brightness is automatically set to the brightest level when AC power is connected and the brightness is automatically set dimmer when the computer runs on battery power to extend the battery use time.

Controlling the Brightness Using the Keyboard

1 Click the **Charms menu** > **Settings** ⚙ > **Screen Adjustment icon** ☼ .

2 Adjust the brightness with the screen brightness control bar.



- **Saving battery power consumption**

  Decreases the LCD brightness when the computer is running on battery power to save battery power consumption.

- **LCD bad pixels principle of computer**

  Samsung observes the specifications regarding strict quality and reliability of LCD. But in spite of that, it is inevitable that there might be a small number of bad pixels. A large number of bad pixels can cause problems in appearance, but a small number of pixels doesn’t affect the computer performance.

  Therefore Samsung observes and manages the following dot principles:

  - Bright dot : 2 or less
  - Black dot : 4 or less
  - Combination of Bright and Dark : 4 or less

Instructions for Cleaning the LCD

Clean the LCD panel with a soft cloth lightly moistened with computer cleansing detergent moving in one direction.

Cleaning the LCD panel with excessive force can damage the LCD.

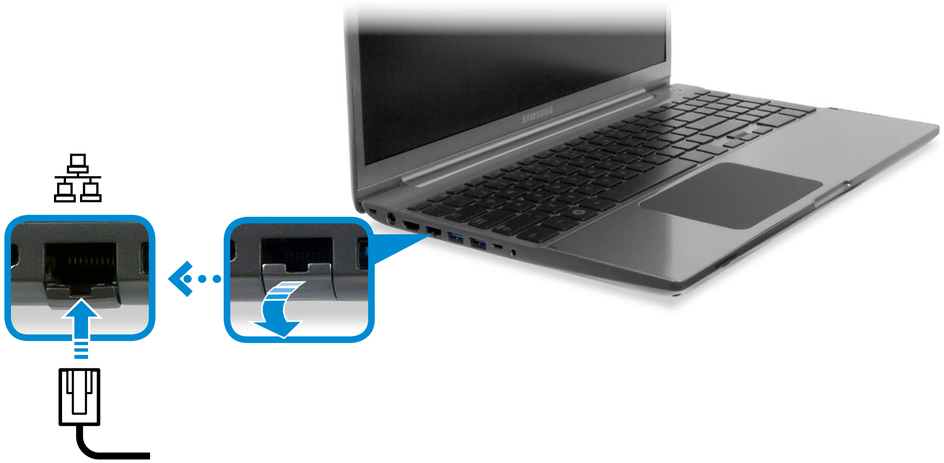
Wired Network

A wired network is a network environment used for a company network or broadband internet connection at home.

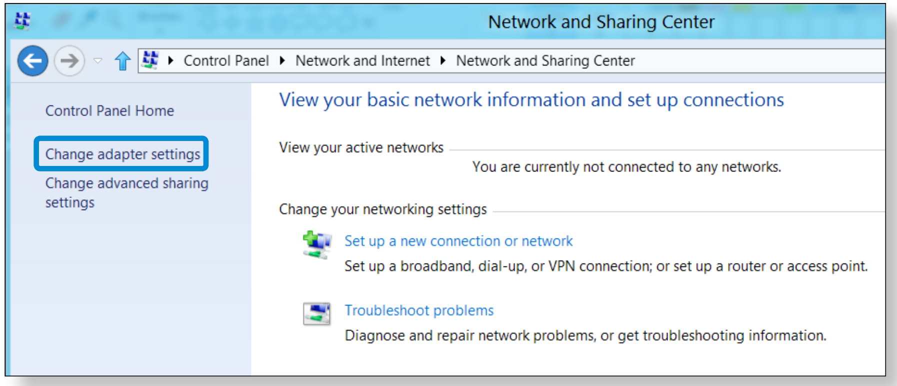
- Since these descriptions are written on the basis of the latest operating system, Windows 8, some of the content and the figures of the descriptions may differ depending on the operating system. Since the procedures for other Windows operating systems are similar, use the computer referring to these descriptions.
- The figures used for the description are of a representative model. Therefore the figures may differ from the real ones.

Connecting to the Wired LAN

1 Connect the LAN cable to the wired LAN port.



2 Click **Charms menu** on the Desktop > **Settings** ⚙ > **Control Panel** > **Network and Internet** > **Network and Sharing Center** and click on **Change adapter settings** in the left menu pane.


Network and Sharing Center
Control Panel ▸ Network and Internet ▸ Network and Sharing Center
Control Panel Home
Change adapter settings
Change advanced sharing settings

View your basic network information and set up connections

View your active networks

You are currently not connected to any networks.

Change your networking settings

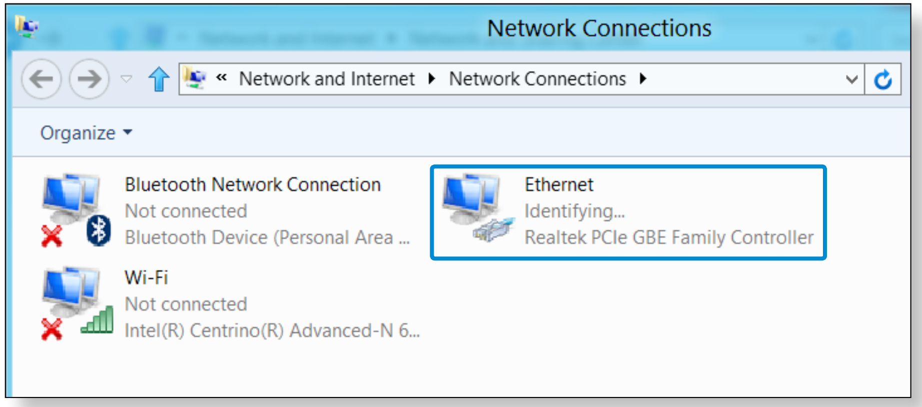
Set up a new connection or network

Set up a broadband, dial-up, or VPN connection; or set up a router or access point.

Troubleshoot problems

Diagnose and repair network problems, or get troubleshooting information.

3 Select **Ethenet** and click the right button of the touch pad and select **Properties**.


Network Connections
« Network and Internet ▸ Network Connections ▸
Organize ▾

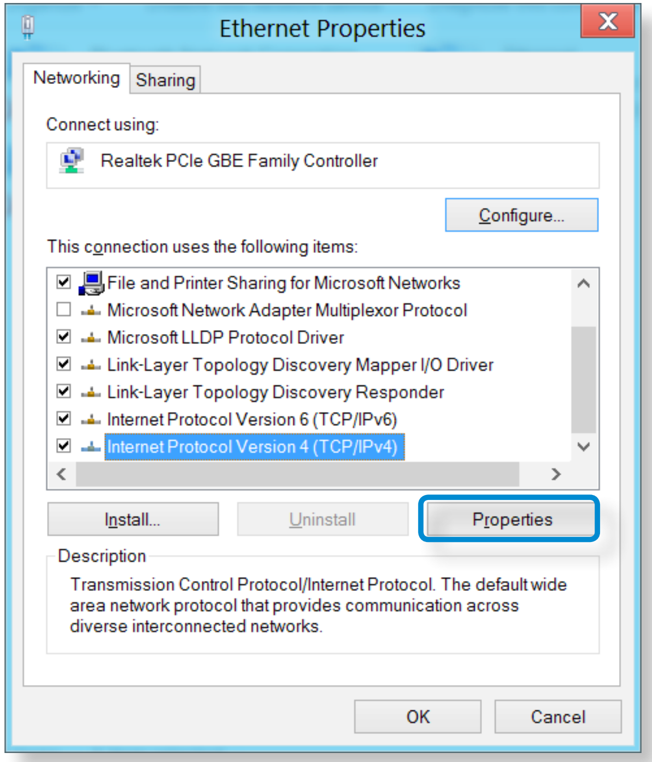
Bluetooth Network Connection
Not connected
Bluetooth Device (Personal Area ...

Ethernet
Identifying...
Realtek PCIe GBE Family Controller

Wi-Fi
Not connected
Intel(R) Centrino(R) Advanced-N 6...

The LAN Device name may differ depending on your computer’s Network Device.

4 Select **Internet Protocol Version 4(TCP/IPv4)** from the list of Network Components and click **Properties**.



Connect using:

Realtek PCIe GBE Family Controller

This connection uses the following items:

- ☑ File and Printer Sharing for Microsoft Networks
- ☐ Microsoft Network Adapter Multiplexor Protocol
- ☑ Microsoft LLDP Protocol Driver
- ☑ Link-Layer Topology Discovery Mapper I/O Driver
- ☑ Link-Layer Topology Discovery Responder
- ☑ Internet Protocol Version 6 (TCP/IPv6)
- ☑ Internet Protocol Version 4 (TCP/IPv4)

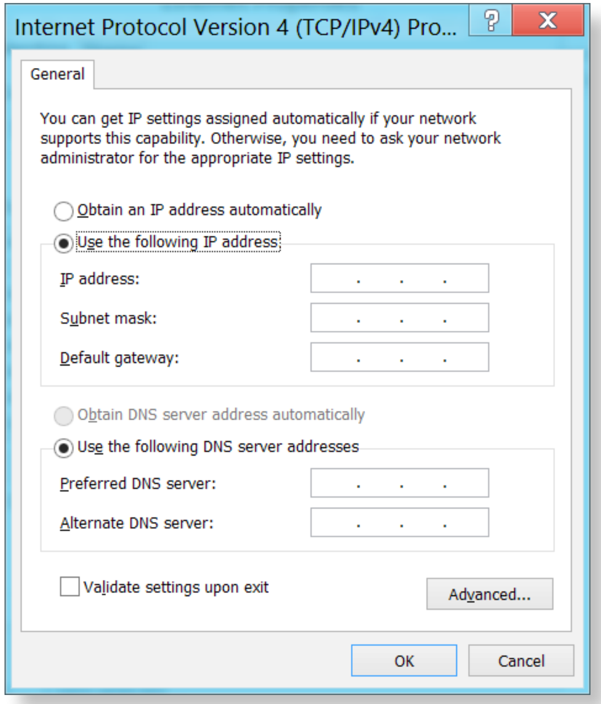
Description

Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.

- The Network Component name may differ depending on the Operating System Installed.
- To add a network component, click Install in the screen shown in the figure above. You can add clients, services, and protocols.

5 Configure the IP settings.

When using DHCP, select **Obtain an IP address automatically**. To use a static IP address, select **Use the following IP address**, and set the IP address manually.



You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

○ Obtain an IP address automatically
● Use the following IP address:
IP address: . . .
Subnet mask: . . .
Default gateway: . . .

○ Obtain DNS server address automatically
● Use the following DNS server addresses
Preferred DNS server: . . .
Alternate DNS server: . . .

☐ Validate settings upon exit

When not using DHCP, ask your network administrator for the IP address.

6 When you have completed the settings, click the **OK** button.

The network settings have been completed.

Wired Network

Using the WOL (Wake On LAN) function

<Wake On LAN> is a function that activates the system from Sleep mode when a signal (such as a ping or magic packet command) arrives over the network (wired LAN).

1. Click **Charms menu** on the Desktop **> Settings** ⚙ **> Control Panel > Network and Internet > Network and Sharing Center** and click on **Change adapter settings** in the left menu pane.

2. Right-click on the **Wired Ethernet Connection** and select **Properties**.

3. Click **Configure > Power Management** tab. **Select Allow this device to wake the computer**, then click **OK**. Restart the system.

   - If the system wakes up from Sleep mode even though there is no received signal, use the system after disabling the <Wake On LAN> function.

   - The LAN LED may not be turned off if System is shoutdown without disabling the WOL (Wake on LAN) option.

   - Connecting a wired LAN while using a wireless LAN may not activate the <Wake On LAN> function. Set the Wireless LAN to **Disable** to use the <Wake On LAN> function.

   - <Wake On LAN> feature may not work while using Hybrid power saving feature. Hybrid sleep mode can be disabled from **Power Options** under **Control Panel**.

For Windows 8, Wake On LAN is not supported by Ping.

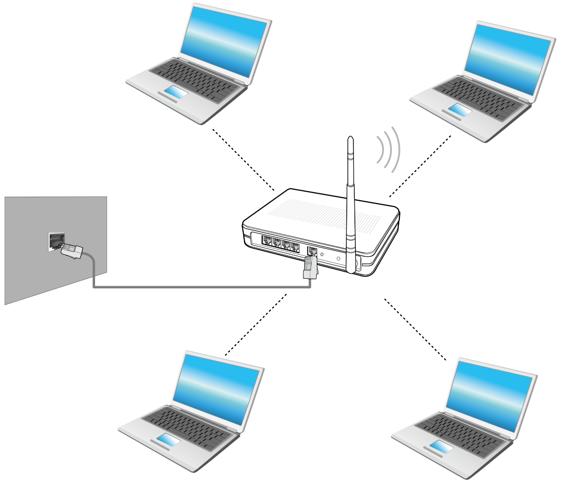
When connected to a 100Mbps/1Gbps wired LAN and the computer exits Sleep/hibernation mode, a message appears informing you of a connection to a 10Mbps/100Mbps wired LAN. This happens because when the computer exits standby/hibernate mode, restoring the network takes about 3 seconds. When the network is restored, it operates at 100Mbps/1Gbps.

When system is running on battery, some time it may take a few second extra after inserting LAN cable to be able to connect to internet. This symptom happen as a result of power saving feature to reduce battery consumption.

When system is running on battery, the Wired LAN speed is decreased automatically to reduce battery consumption. In such case, a 1Gbps /100Mbps LAN would function at 100Mbps/10Mbps speed.

Wireless Network (Optional)

A wireless network (Wireless LAN) environment is a network environment that enables communicating between multiple computers at home or a small-size office through wireless LAN devices.



- The screen figures and terms may differ depending on the model.
- Depending on the program version, some functions may not be provided or different functions may be provided.
- The descriptions below are for computer models with a Wireless LAN card or device. A Wireless LAN device is optional.
  The pictures in this manual may differ from the actual product depending on your wireless LAN device model.

What is an Access Point (AP)?

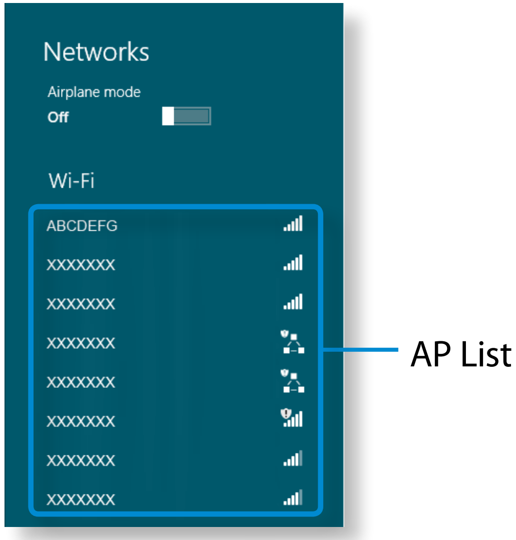
An AP is a network device that bridges wired and wireless LANs, and corresponds to a wireless hub in a wired network. You can connect multiple wireless LAN installed computers to an AP.

Connecting to a Wireless LAN

If there is an AP, you can connect to the Internet via the AP using the Wireless LAN connection method provided by Windows.

1 If you click the **Charms menu > Settings** ⚙ **> Network Connections** 📶 icon, a list of available APs appears.

If you select an AP to connect to, the **Connect** button appears.

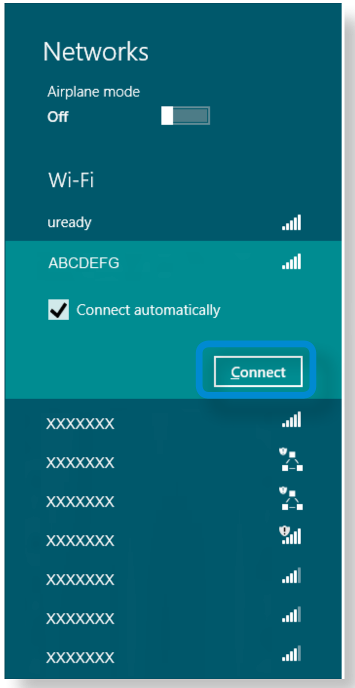


Networks
Airplane mode
Off
Wi-Fi
ABCDEFG
XXXXXXX
XXXXXXX
XXXXXXX
XXXXXXX
XXXXXXX
XXXXXXX
XXXXXXX

2 Click **Connect**.

If a network key is set for the AP, enter the network key and then click **OK**.

For the network key, please ask your network administrator.



Networks
Airplane mode
Off
Wi-Fi
uready
ABCDEFG
☑ Connect automatically
XXXXXXX
XXXXXXX
XXXXXXX
XXXXXXX
XXXXXXX
XXXXXXX
XXXXXXX

3 When the AP connection is completed, Connected is displayed next to the corresponding AP. You can now you can use the wireless network.

Using the TPM Security Device (Optional)

A TPM (Trusted Platform Module) security device is a security solution that protects your personal information by saving the user authentication data on the TPM chip installed on the computer.

To use the TPM security device, you have to initialize the TPM chip in the BIOS Setup, initialize the TPM program, and then register the user.

- This function is only supported for models with TPM (security chip).
- For more information, refer to the online help for the program.
- The program version described in this manual is subject to change and the screenshots and terms used in this manual may differ from the actual product.

Setting Up the TPM

To use the TPM function, you have to complete the following steps.

1 **Initializing the TPM chip**
Initializes the authentication information saved on the TPM chip.

2 **Installing the TPM program**
Installs the TPM program.

3 **Registering the TPM program**
Registers the TPM program.

If you complete the steps above, you can use the TPM function.

Using the TPM Security Device (Optional)

Initializing the TPM chip

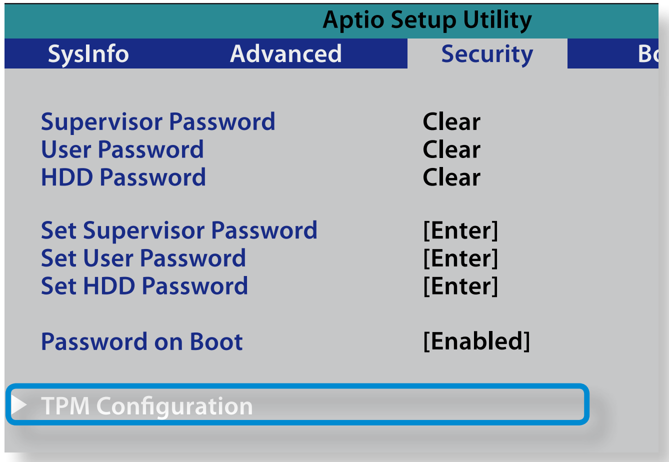
When you use the TPM function for the first time or you want to register the user again, you have to initialize the TPM chip.

- Initializing the TPM chip erases all authentication information saved on the TPM chip. Any decision to initialize must be taken carefully.
- To initialize the TPM chip again while the TPM function is in use, you have to decrypt any existing files and folders encrypted by the TPM function first. Otherwise, you will not be able to access the files and folders after re-initialization.

1 Restart the computer.

When the Samsung logo screen appears, press the **F2** key repeatedly.

2 If the BIOS screen appears, select the **Security > TPM Configuration** item and press **Enter**.



Aptio Setup Utility
SysInfo
Advanced
Security
Bo

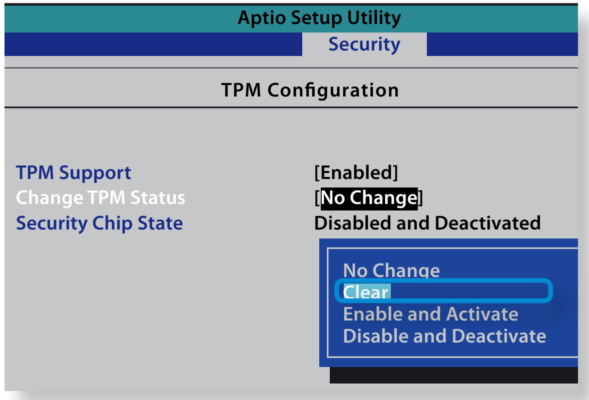
Supervisor Password Clear
User Password Clear
HDD Password Clear

Set Supervisor Password [Enter]
Set User Password [Enter]
Set HDD Password [Enter]

Password on Boot [Enabled]

▶ TPM Configuration

3 Set the **TPM Support** item to **Enabled** and set the **Change TPM Status** to **Clear**.



Aptio Setup Utility
Security
TPM Configuration

TPM Support [Enabled]
Change TPM Status [No Change]
Security Chip State Disabled and Deactivated

No Change
Clear
Enable and Activate
Disable and Deactivate

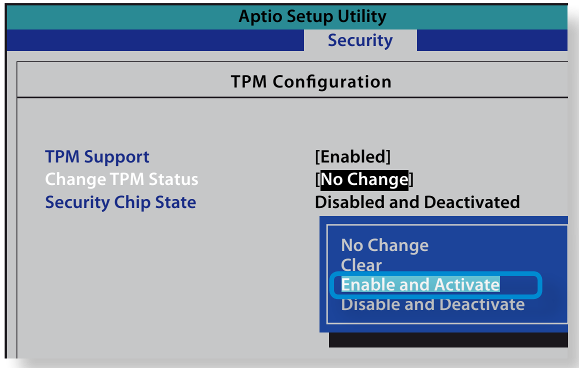
4 Press the **F10** key to save the changes.

Using the TPM Security Device (Optional)

5 When the system reboots, press the corresponding key(s) by following the onscreen instructions.

6 When the computer restarts automatically and the Samsung logo screen appears, press the **F2** key repeatedly.

7 Select the **Security > TPM Configuration > Change TPM Status** item and set the item to **Enable and Activate**.



TPM Support [Enabled]
Change TPM Status [No Change]
Security Chip State Disabled and Deactivated

8 Press the **F10** key to save the changes.

9 When the system reboots, press the corresponding key(s) by following the onscreen instructions.

10 Press the **F10** key to save the changes. The computer automatically restarts. Initialization of the TPM chip has been completed. Now, install the TPM program and register the TPM program.

Installing the TPM program

You can install the TPM program as follows. Install the program according to the procedures below.

This program is only provided for models with Recovery and the TPM function.

Method 1

1 Run **Recovery** and click on **System Software**.

- If your computer does not boot up or if **System Software** does not display in the **Recovery** program, use **Method 2** to install the TPM program.

2 Click on **System Software** Installation.

3 The **SW Update** program will be launched.

Select **TPM Host SW** and click **Install Now**.

If the system software media is supplied with the product, you can install the program by using the system software media (only when supplied.)

4 After the installation, if you click **OK**, the computer restarts.

Using the TPM Security Device (Optional)

Method 2

1 Turn the computer on and immediately press the **F4** key several times.

2 After a moment, the **Recovery** program runs.

Click **System Software**.

3 When a pop-up window appears to ask you to reboot the system, click **Yes**.

The system starts to reboot. After a moment, the **SW Update** program automatically runs.

4 Connect to the network.

5 Select **TPM Host SW** and click **Install**.

6 After the program is completely installed, click **Close**.

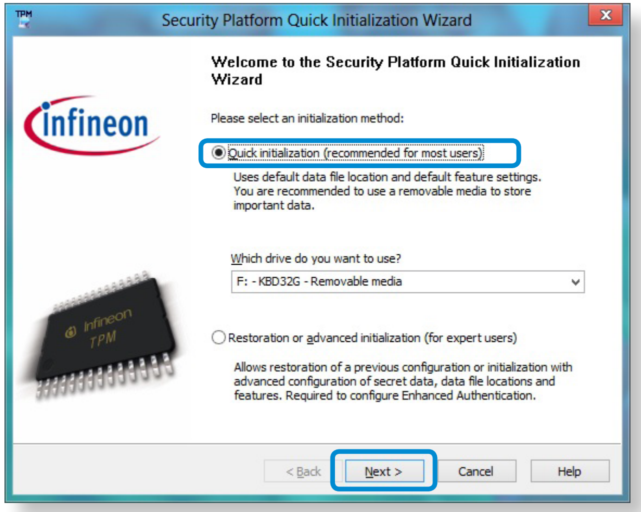
7 Close the **SW Update** window and reboot your computer again.

Registering the TPM program

1 From the **Start Screen**, right-click any area and select **All apps** in the bottom right corner. Then, click **Infineon Security Platform Solution > Security Platform Management > User Settings**. (with administrator authority)

Alternatively, double-click the icon on the Taskbar and run initialization with administrator authority.

2 The security authentication settings begin with the **Initialization Wizard**. When the Initialization Wizard appears, click **Next**.



Welcome to the Security Platform Quick Initialization Wizard

Please select an initialization method:

● Quick initialization (recommended for most users)

Uses default data file location and default feature settings. You are recommended to use a removable media to store important data.

Which drive do you want to use?

F: - KBD32G - Removable media

○ Restoration or advanced initialization (for expert users)

Allows restoration of a previous configuration or initialization with advanced configuration of secret data, data file locations and features. Required to configure Enhanced Authentication.

If the **status not initialized** message appears, click **Yes**.

If you backup the emergency recovery file to an external storage device according to the instructions of the Initialization Wizard, you can use the TPM security device more safely.

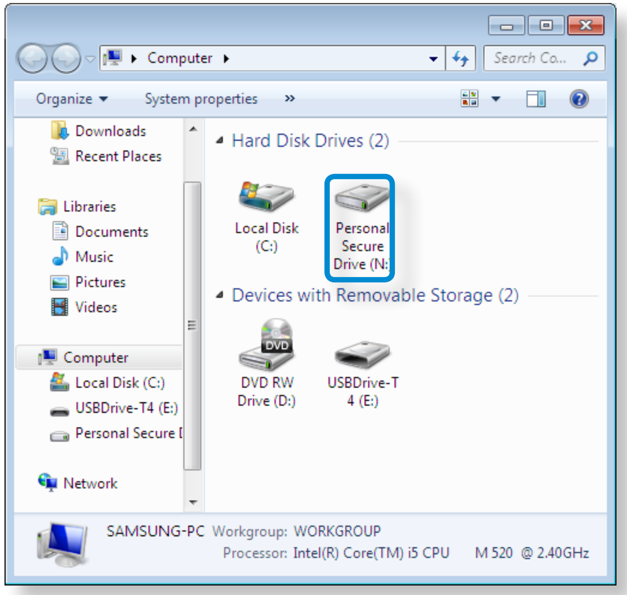
Using the TPM Security Device (Optional)

3 Select a **Security Platform Feature** and set a **basic user password**.

4 Complete the registration according to the instructions.

5 The user registration for the TPM program has been completed. You can encrypt files and folders by using the encryption file system, and use files and folders to be encrypted by creating or copying them to the virtual drive.

The virtual drive is created in the following location.


Computer
Search Co...
Organize
System properties
Downloads
Recent Places
Libraries
Documents
Music
Pictures
Videos
Computer
Local Disk (C:)
USBDrive-T4 (E:)
Personal Secure I
Network
Hard Disk Drives (2)
Local Disk (C:)
Personal Secure Drive (N:
Devices with Removable Storage (2)
DVD RW Drive (D:)
USBDrive-T 4 (E:)
SAMSUNG-PC Workgroup: WORKGROUP
Processor: Intel(R) Core(TM) i5 CPU M 520 @ 2.40GHz

Using the TPM program

For more information about using the TPM program, refer to the online help for the program.

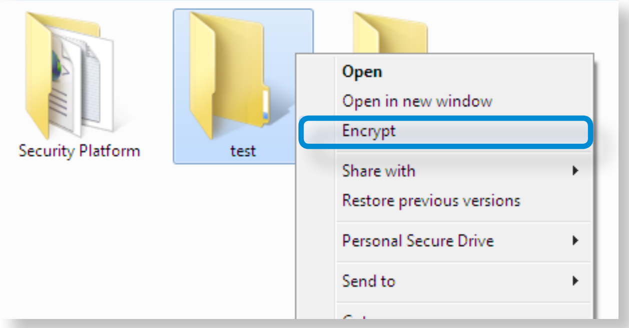
Encrypting a file (folder)

This function enables encrypting files and folders. You can safely protect documents through the Encrypt File System (EFS).

The Encrypt File System(EFS) function is supported by the following operating systems.

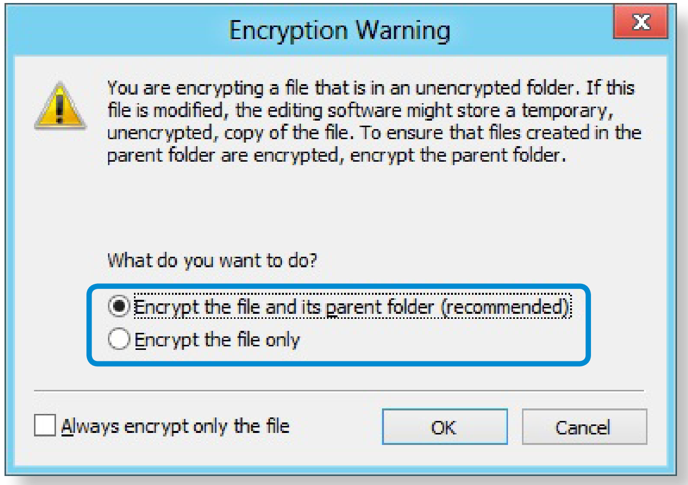
- Windows 7 Professional / Enterprise / Ultimate
- Windows 8 Pro / Enterprise

1 Right-click over the folder (or file) to be encrypted, and select **Encrypt** from the pop-up menu.


Security Platform
test
Open
Open in new window
Encrypt
Share with
Restore previous versions
Personal Secure Drive
Send to

Using the TPM Security Device (Optional)

2 If the **Confirm Attribute Changes window** appears, select the range to apply the encryption to and click **OK**.
(This dialog box only appears when the folder is encrypted.)



Encryption Warning

You are encrypting a file that is in an unencrypted folder. If this file is modified, the editing software might store a temporary, unencrypted, copy of the file. To ensure that files created in the parent folder are encrypted, encrypt the parent folder.

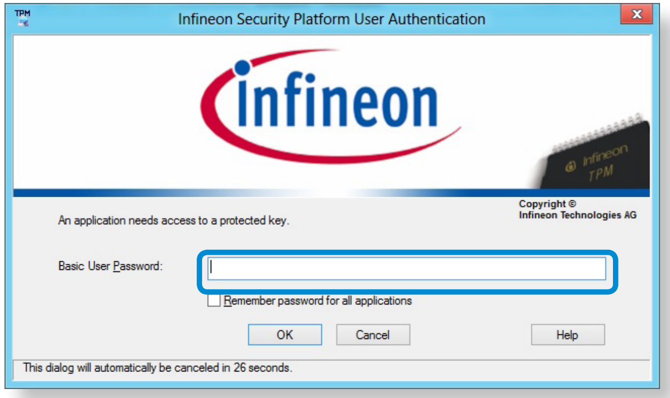
What do you want to do?

● Encrypt the file and its parent folder (recommended)
○ Encrypt the file only

☐ Always encrypt only the file

If the current operating system is Windows 8/7, the user account control window appears. In this case, click **Continue**.

3 In the **user authentication** window, enter the **Basic user password** you entered when registering the user and click **OK**.



Infineon Security Platform User Authentication

An application needs access to a protected key.

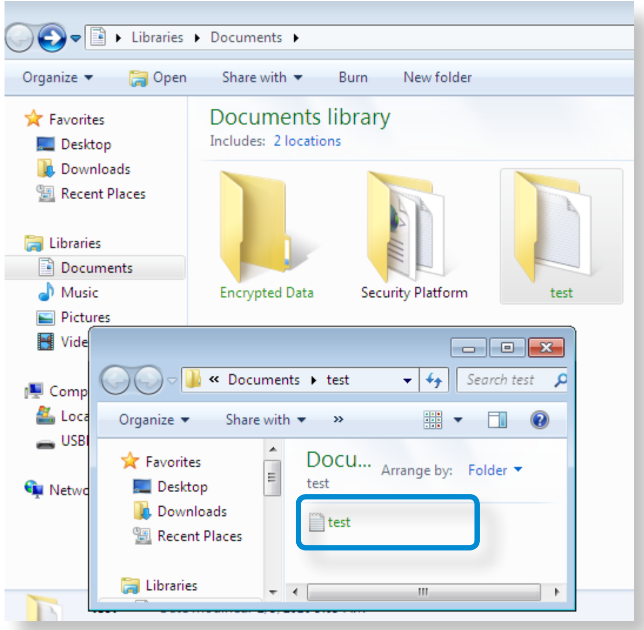
Basic User Password:

☐ Remember password for all applications

This dialog will automatically be canceled in 26 seconds.

infineon
Infineon TPM
Copyright ©
Infineon Technologies AG
OK
Cancel
Help

4 You will be able to confirm that the color of the folder (file) name in the encrypted folder has been changed to green.



Libraries
Documents
Organize
Open
Share with
Burn
New folder
Favorites
Desktop
Downloads
Recent Places
Libraries
Documents
Music
Pictures
Vide
Comp
Loca
USB
Netw
Documents library
Includes: 2 locations
Encrypted Data
Security Platform
test
« Documents ▸ test
Search test
Organize
Share with
»
Favorites
Desktop
Downloads
Recent Places
Libraries
Docu...
test
Arrange by: Folder
test

Using the TPM Security Device (Optional)

Opening an encrypted folder (file)

1. Double-click an encrypted folder (file).

2. If the user authentication window appears, enter the **basic user password** you entered when registering the user and click **OK**.

3. The folder (file) opens.

Decrypting an encrypted folder (file)

1. Right-click over an encrypted folder (file) and select **Decrypt** from the pop-up window.

2. If the user authentication window appears, enter the **basic user password** you entered when registering the user and click **OK**.

3. The folder (file) is decrypted.

Using the virtual drive (Personal Secure Drive: PSD)

The virtual drive (PSD) is a virtual space to save and manage confidential data. In the created virtual drive (PSD), you can create files and folders as with a normal drive (e.g. drive C:) and you can use confidential data saved on another drive by copying the data to the virtual drive (PSD).

When the virtual drive (PSD) does not appear

You can only use the virtual drive (PSD) when you have selected the Personal Secure Drive (PSD) option during the program registration.

If you have not selected the option during the registration, complete the following steps.

1. From the **Start Screen**, right-click any area and select **All apps** ☰ in the bottom right corner.

   Then, click **Infineon Security Platform Solution > Security Platform Management > User Settings** tab **> Configure Security Platform Features**.

2. When the **Initialization Wizard** appears, select **Personal Secure Drive (PSD)** and enter the user password.

3. Click **Next** several times according to the instructions of the **Initialization Wizard** to finish the wizard.

When the virtual drive (PSD) is not loaded

To use the virtual drive (PSD), the virtual drive (PSD) should be loaded first. If it is not loaded, you can load it according to the procedures below.

1. Right-click over the **Security Platform** icon in the system tray of the Taskbar and select **Personal Secure Drive > Load** from the pop-up menu.
2. In the load window, enter the basic user password and click **OK**.
3. If you click **Start > Computer**, you will be able to confirm that the Personal Secure Drive is created.

Note that when you have copied confidential data to the PSD, the original data files are not encrypted.

When you have to register again (to erase the authentication information on the TPM chip)

To register a user again, you need to delete the existing authentication information saved on the TPM chip and then clear the TPM chip.

Register the user in the following order.

1. Delete the virtual drive.
2. Delete the existing authentication information saved on the TPM chip.

Deleting the virtual drive

If a virtual drive has been created, you have to delete the virtual drive before deleting the existing authentication information saved on the TPM chip.

1 Right-click over ▸ > TPM and click **Personal Secure Drive > Create/Manage**.

2 Click **Next**.

3 Enter the password that you entered when registering the TPM program and click **Next**.

4 Select Delete selected PSD and click **Next**.

5 Select “**I want to permanently delete my Personal Secure Drive without saving an unencrypted copy of its contents.**” and click **Next**.

6 Click **Next** and then **Finish**.

7 Now the virtual drive has been deleted.

Deleting the existing authentication information saved on the TPM chip.

1 On the desktop, select the **Charms menu > Settings > Control Panel > Programs > Uninstall a program > Infineon TPM Professional Package**. Then click **Uninstall**.

2 If the message window appears, click **Yes** to remove the program.

3 If the **Infineon Security Platform** message appears, click **No**.

4 Click the **Windows Explorer** 📁 icon in the taskbar on the Desktop.

5 In **View > Options > Folder Options > View > Hidden files and folders** item, select the Show hidden files, folders, and drives option and click **OK**.

6 Click the **Start > Computer > Drive C: > ProgramData** folder and delete the **Infineon** folder.

7 Now the TPM Program has been deleted.

To use the TPM function, please repeat the procedures of the **TPM chip initialization** process.

Using the Multimedia App (Optional)

You can enjoy photo, video and music files with the S Camera, S Gallery and S Player apps.

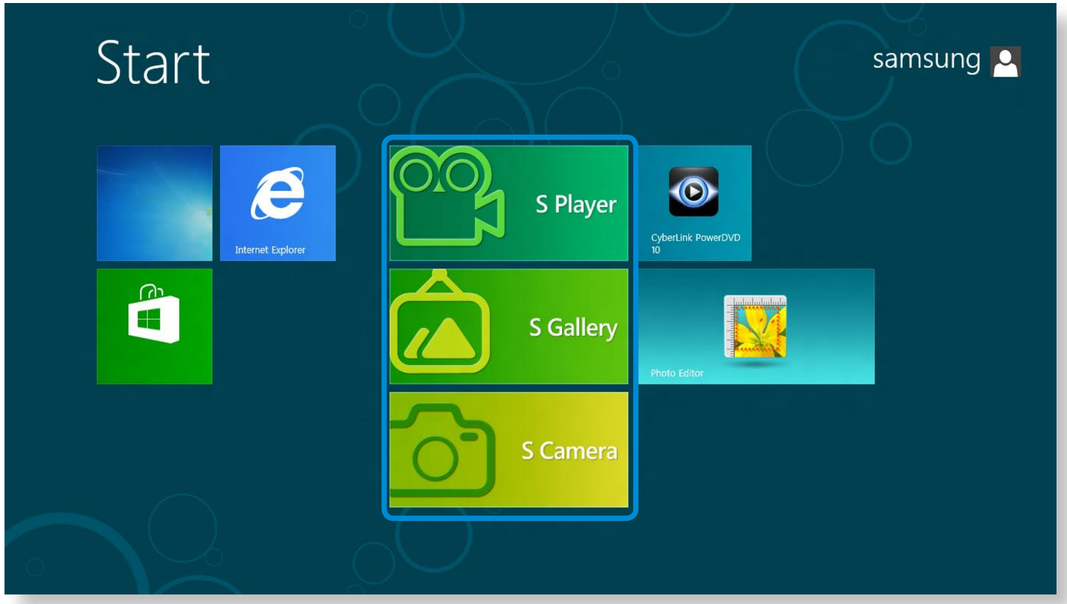
S Camera	You can take photos and record videos with the S Camera app, and view them directly in this app.
S Gallery	Only photos or videos recorded with the S Camera app can be viewed with the S Camera app.
S Player	You can view the photo, video and music files saved on the computer.

Depending on the version of the program, some functions may not be provided or different functions may be provided.

Third-party software related services

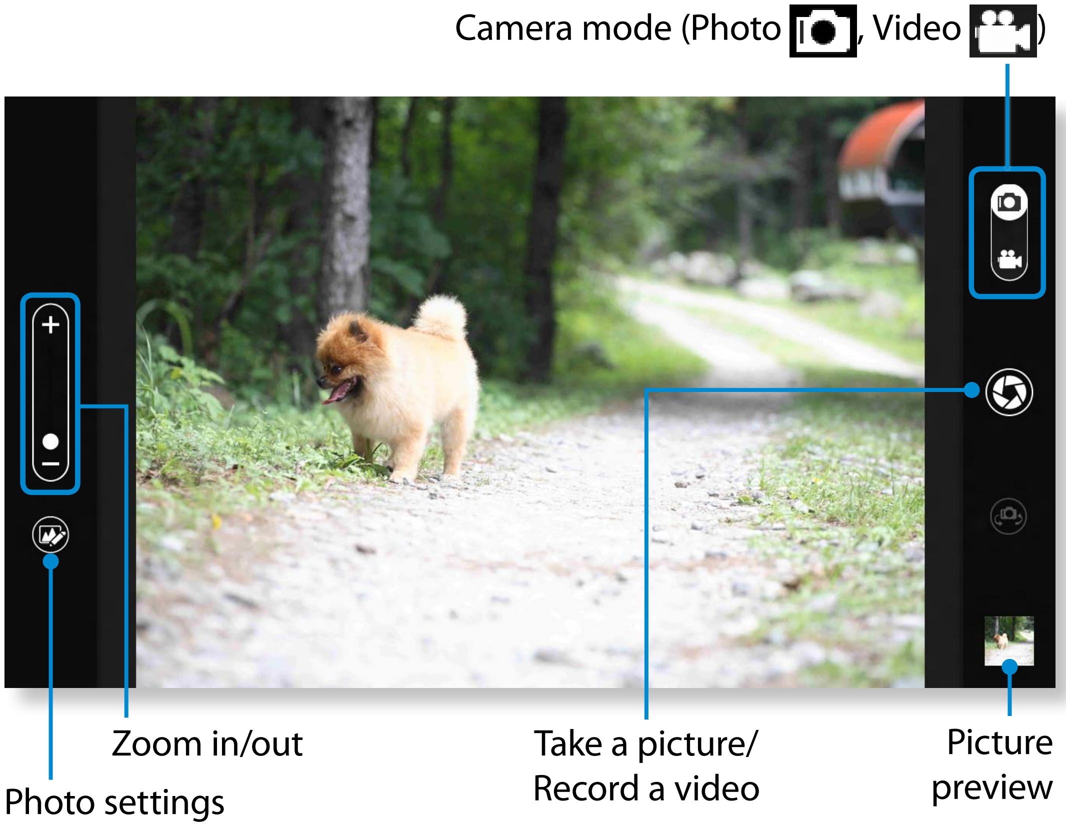
- For descriptions about and service requests for third-party software, please contact the relevant manufacturer.
- Some troubleshooting actions in response to service requests may not work depending on the software manufacturer.

You can launch an app in the Start screen.


Start
samsung
Internet Explorer
S Player
CyberLink PowerDVD 10
S Gallery
Photo Editor
S Camera

Using the S Camera app

1 Tap **Charm menu** > **Start** > **S Camera**.


Camera mode (Photo , Video)
Zoom in/out
Photo settings
Take a picture/
Record a video
Picture
preview

2 To take a picture, slide the camera mode bar into the Photo position.

To make a video recording, slide the camera mode bar to the Video position.

3 Tap on **Take a picture/Record a video** to take a picture or record a video.

4 You can view the picture or video using the **Picture preview** or **S Gallery** app.

The S Camera app is not available in Desktop mode.

Precautions while taking a picture or video

- Do not take a picture or video of others without their consent.
- Do not take a picture or video in locations where this is not allowed.
- Do not take picture or videos in locations where you may infringe on others' privacy or confidential information may be exposed.

Using the Multimedia App (Optional)

Using the S Gallery app

1 Tap **Charm menu** > **Start** > **S Gallery**.

2 You can view the pictures and videos taken by the S Camera.

In addition, you can apply special effects to the pictures using the photo editing function.

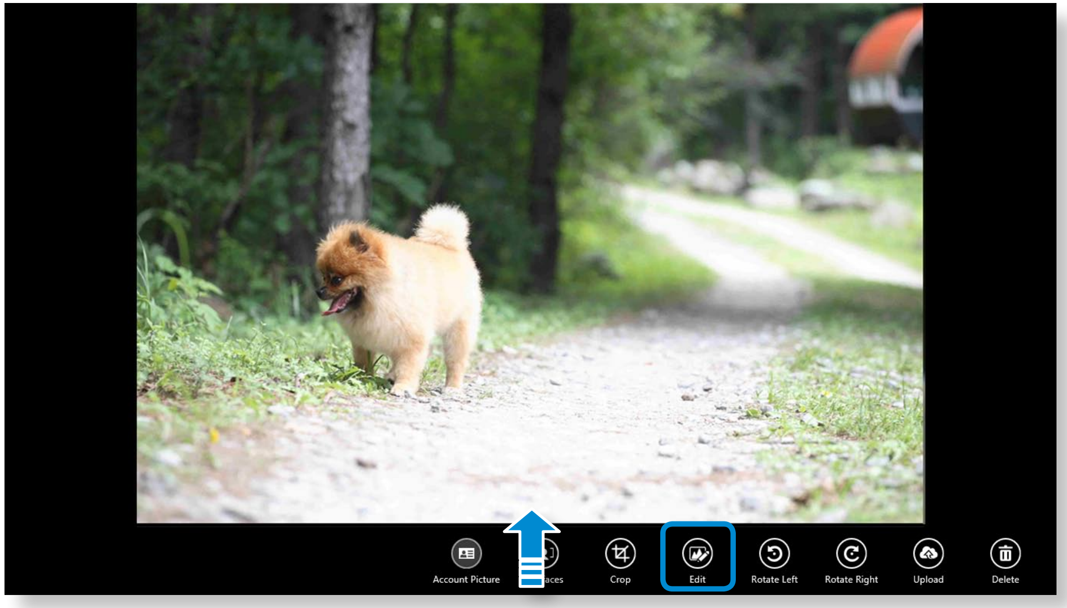
You can take a picture in the S Gallery app by tapping the Camera icon.

Editing a photo

1 Select **Picture preview**.

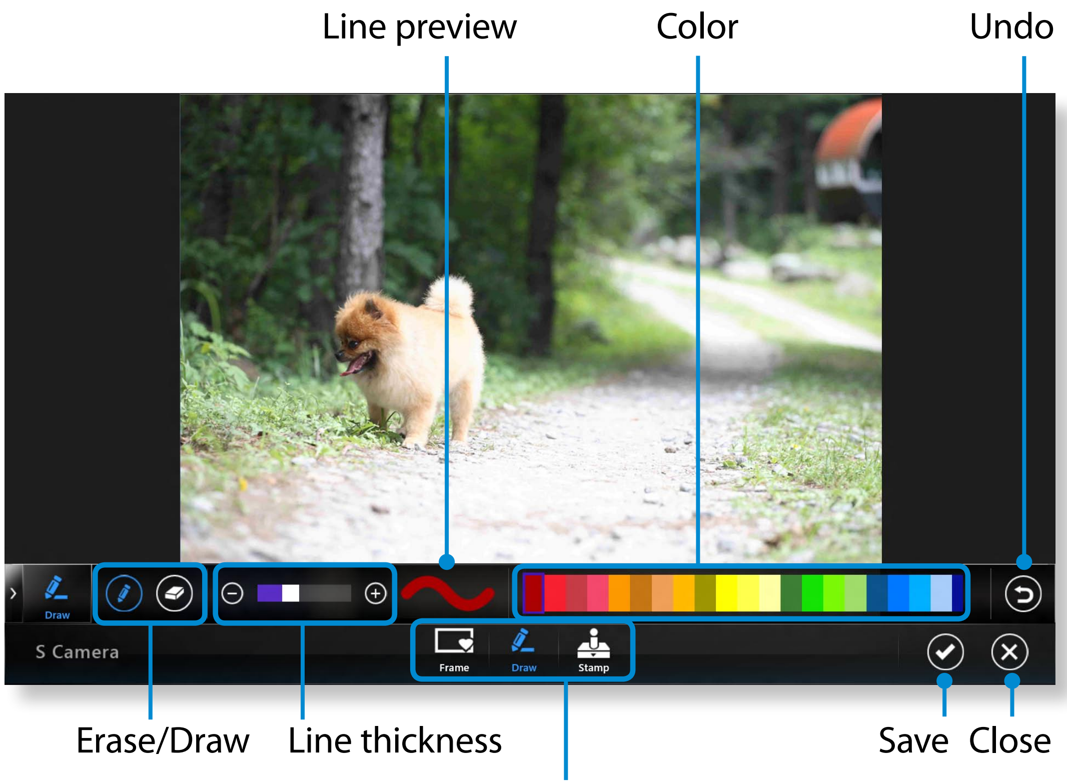
Drag it upward slightly from the bottom center.

If the options menu appears, select **Edit** .


Account Picture
aces
Crop
Edit
Rotate Left
Rotate Right
Upload
Delete

2 Select an effect to be applied to the photo.

E.g. If you select Draw


Line preview
Color
Undo
Draw
S Camera
Frame
Draw
Stamp
Erase/Draw
Line thickness
Save
Close

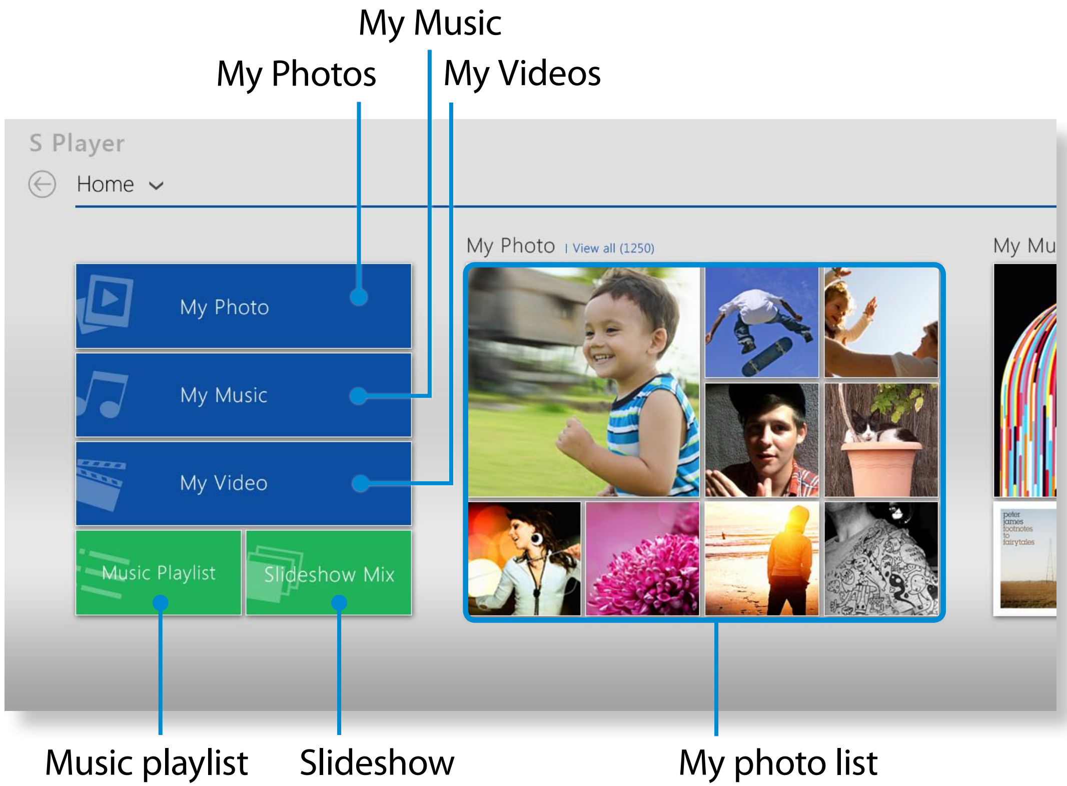
Frame

Draw

Stamp

Using the S Player app

1 Tap **Charm menu > Start > S Player**.


My Music
My Photos
My Videos
S Player
Home
My Photo
View all (1250)
My Photo
My Music
My Video
Music Playlist
Slideshow Mix
Music playlist
Slideshow
My photo list

2 Select a menu to enjoy photo, video and music files.

Some files may not be played depending on their format.

Samsung Software Update

SW Update is a software program that searches for Samsung software programs and drivers installed when you purchased the computer and helps you update any drivers or programs.

- You can check updatable files before performing the update only when you are connected to the internet.
- SW Update does not provide any updates for device drivers or software programs installed separately by the user.

1 From the **Start Screen**, right-click any area and select **All apps** ☰ in the bottom right corner.

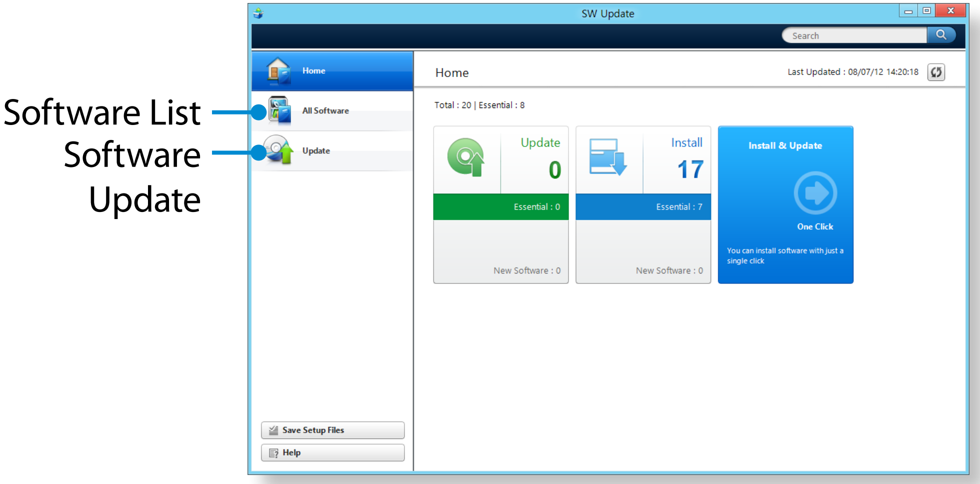
Then, click **SW Update**.

2 If the program is running for the first time, the User Agreement for personal information use appears.

Click **Agree**.

3 The **SW Update** program runs.

Select the items that you want to update before proceeding with the update process.


Software List

Software Update

Last Updated : 08/07/12 14:20:18

Total : 20 | Essential : 8

Update 0 Essential : 0 New Software : 0

Install 17 Essential : 7 New Software : 0

You can install software with just a single click

Diagnosing the Computer Status and Troubleshooting

The Support Center program, which is Samsung's computer's troubleshooting guide, supports diagnosing the system and has a FAQ for frequently occurring problem(s).

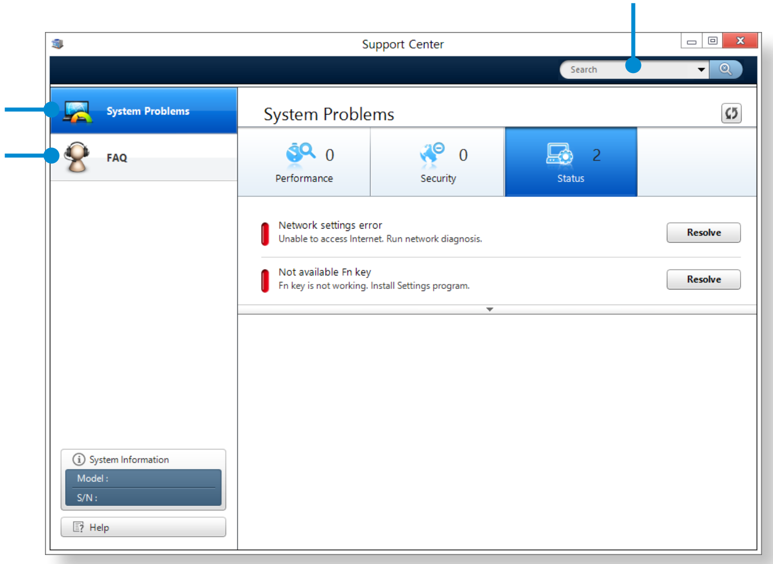
Support Center may not be provided or may be a different version depending on the model.

1 From the **Start Screen**, right-click any area and select **All apps** ☰ in the bottom right corner.

Then, click **Support Center**.

2 Support Center is activated and starts diagnosing your computer.

After the diagnosing process is finished, the System Status menu displays a list of the current problems to be solved as shown.


Support Center
Search
System Problems
FAQ
System Problems
0
Performance
0
Security
2
Status
Resolve
Resolve
System Information
Model :
S/N :
Help

Network settings error
Unable to access Internet. Run network diagnosis.

Not available Fn key
Fn key is not working. Install Settings program.

Searching for computer's problems

Diagnosing Computer and Troubleshooting

FAQ for computer's major problems

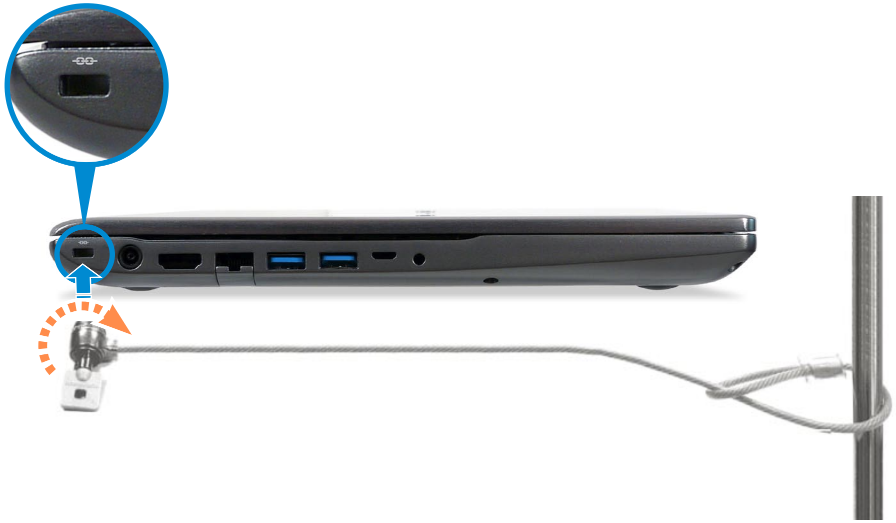
3 You can solve a problem by clicking the Troubleshoot button for the problem.

Using the Security Slot

You can secure the computer by connecting a lock and cable to the Security Slot.

To use this feature, you have to purchase the lock and cable additionally. To use the lock and cable, refer to the product manual.

Tie the lock and cable to a fixed object and install the other end of the cable to the security slot.



Chapter 4.
Settings and Upgrade

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Changing the Boot Priority 99

Upgrading Memory (Optional) 100

Battery 103

BIOS Setup

The BIOS Setup enables you to configure your computer hardware according to your needs.

- Use the BIOS setup to define a boot password, change the booting priority, or add a new device.
- Since incorrect settings may cause your system to malfunction or crash, take care when configuring the BIOS.
- The functions of the BIOS setup are subject to change for product function enhancement purposes.
- The BIOS Setup menus and items may differ depending on your computer model.

Turbo Control (for corresponding models only)

This technology automatically controls the CPU performance to minimize heat generation when the CPU temperature exceeds a preset level. Due to the automatic control of the CPU performance, the experienced performance may be degraded.

If you don’t want to use the **Turbo Control** technology, enter the **BIOS** Setup, select **Advanced > Turbo Control** from the menu and set it to **Disabled**.

In this case, the temperature of the surface of the product may increase. (If you cannot find the menu item in the **BIOS** Setup menu, download the latest version of the **BIOS** from the **SW Update** and install it.)

Entering the BIOS Setup

1 Turn the computer on.

Immediately press the **F2** key several times.

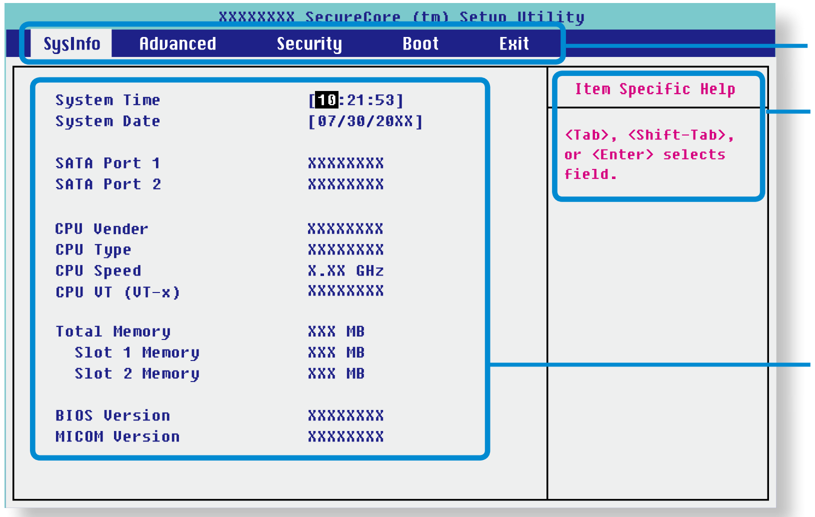
2 After a moment, the BIOS setup screen appears.

The items in the BIOS setup may differ depending on the product.

BIOS Setup

The BIOS Setup Screen

The BIOS Setup menus and items may differ depending on your computer model.



```
System Time          [10:21:53]
System Date          [07/30/20XX]

SATA Port 1          XXXXXXXX
SATA Port 2          XXXXXXXX

CPU Vender           XXXXXXXX
CPU Type             XXXXXXXX
CPU Speed            X.XX GHz
CPU VT (VT-x)        XXXXXXXX

Total Memory         XXX MB
  Slot 1 Memory      XXX MB
  Slot 2 Memory      XXX MB

BIOS Version         XXXXXXXX
MICOM Version        XXXXXXXX
```

```
Item Specific Help

<Tab>, <Shift-Tab>,
or <Enter> selects
field.
```

Setup Menu

Help

Help for the selected item appears automatically.

Setup Items

Setup Menu	Description
SysInfo	This is a description about the basic specifications of the computer.
Advanced	Using this menu, you can configure the major chipsets and additional functions.
Security	Used to configure security functions, including passwords.
Boot	This menu enables you to configure peripherals and booting related settings such as the boot priority.
Exit	Used to exit the Setup either saving the changes or not.

System Setup Keys

In the Setup, you have to use the keyboard.

F1	F1	Press to view the Setup Help.
Up & Down Keys	▲ ▼	Press to move up and down.
F5/F6	F5 F6	Press to change the item value.
F9	F9	Press to load the default Setup settings.
ESC	Esc	Press to return to a higher level menu or to move to the **Exit** menu.
Left & Right Keys	◄ ►	Press to move to another menu.
Enter	Enter ↵	Press to select an item or to enter a sub menu.
F10	F10	Press to save the changes and exit Setup.

The keyboard image may differ from the actual keyboard.

Setting a Boot Password

If you set a password, you have to enter the password when you turn the computer on or enter the BIOS Setup.

By configuring a password, you can restrict system access to authorized users only and protect data and files saved on the computer.

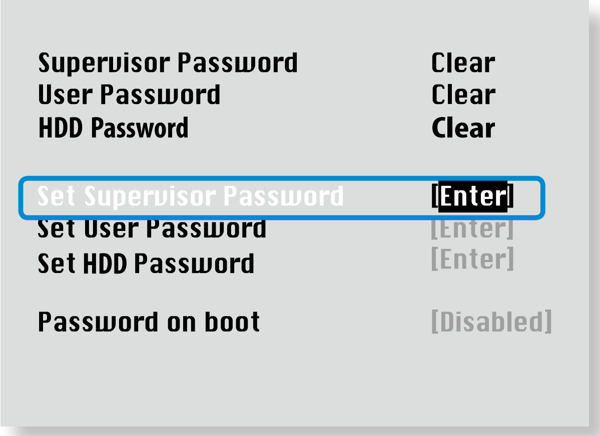
- The password setting provides the following 3 sub menus. (Supervisor Password, User Password and HDD Password)
- Do not lose or forget your password.
- Do not let others know your password.
- If you forget the Supervisor Password or HDD Password, you will need to request assistance from the service center. In this case, a service fee will be charged.
- When you forget the User Password, you can disable the Supervisor Password, and the User Password is also automatically disabled.
- The screen images and terms may differ from actual product depending on the computer model and driver version.

Setting a Supervisor Password

If you set a Supervisor Password, you need to enter the password when you turn the computer on or enter the BIOS Setup.

Setting only the Supervisor Password and User Password is not very secure. You can use an HDD Password as well to increase the security level.

1. Select the **Security** menu in the BIOS Setup.
2. In the **Set Supervisor Password** item, press <**Enter**>.



```
Supervisor Password          Clear
User Password                Clear
HDD Password                 Clear

Set Supervisor Password      [Enter]
Set User Password            [Enter]
Set HDD Password             [Enter]

Password on boot             [Disabled]
```

3. Enter a password, press <**Enter**>, re-enter the password for confirmation, and press <**Enter**> again.

   The password can be up to 8 alphanumeric characters. Special characters are not allowed.

4. The supervisor password has been set.

   The supervisor password is required to turn the computer on or to enter the BIOS Setup.

For some models, if the password entered message appears in the **Setup Notice** window, the settings are not complete until the <**Enter**> key is pressed.

Setting a Boot Password

Setting a User Password

Using the User Password, you can turn the computer on but you cannot change the major settings of the BIOS Setup because you cannot enter the BIOS Setup.

This helps prevent unauthorized access to the major settings in the BIOS Setup menu.

Before configuring a user password, a **supervisor password** must have been configured. Deactivating the supervisor password also deactivates the user password.

In the **Set User Password** item, press <**Enter**> and complete the procedures from Step 3 of Setting a Supervisor Password.

Setting Up a Boot Password

To setup a boot password, the administrator password (**Set Supervisor Password**) should be set in advance.

Set the **Password on boot** item to **Enabled**.

Once a boot password is set, you have to enter a password to boot up the computer.

Be sure to remember the password for later use.

Setting up a Hard Disk Drive Password (Optional)

If you set a password for a hard disk drive, it cannot be accessed from another computer.

Press <**Enter**> in the **Set HDD Password** item and define a password as described in Step 3 of the Setting up the Supervisor Password.

- The hard disk drive password setting function is not provided for some models.

- **Changing the hard disk drive password**

  For security purposes, you can only change a hard disk drive password after restarting the computer by pressing the computer **Power** button.

  If you cannot change the hard disk drive password or the **HDD Password Frozen** message appears when entering the BIOS Setup and then selecting **Security > HDD Password**, press the **Power** button to turn the computer on again.

Setting a Boot Password

Deactivating the Password

1 Press <**Enter**> on the password to be deactivated. For example, to deactivate a supervisor password in the **Set Supervisor Password** item, press <**Enter**>.

2 In the **Enter Current Password** item, enter the currently configured password and press <**Enter**>.

3 Leave the **Enter New Password** item field empty, and press <**Enter**>.

4 Leave the **Confirm New Password** field empty, and press <**Enter**>.

The password is deactivated.

For some models the password is only canceled if the <**Enter**> key is pressed in the **Setup Notice** window.

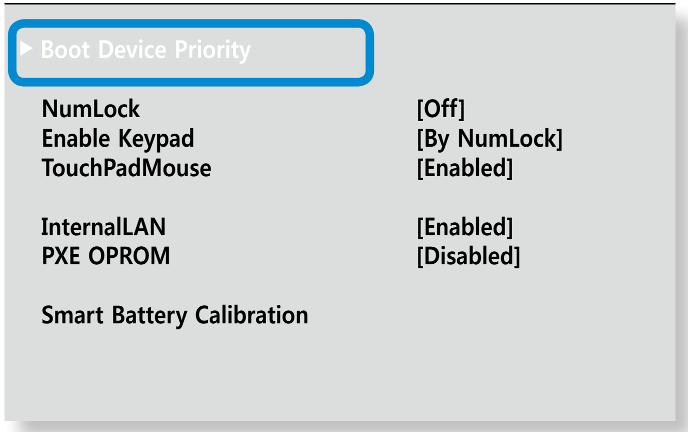
Changing the Boot Priority

As an example, the procedures to change the highest boot priority device to the hard disk drive are described below.

The screen images and terms may differ from actual product depending on the computer model and driver version.

1 Select the **Boot** menu in the BIOS Setup.

2 Press <**Enter**> on the **Boot Device Priority** item.



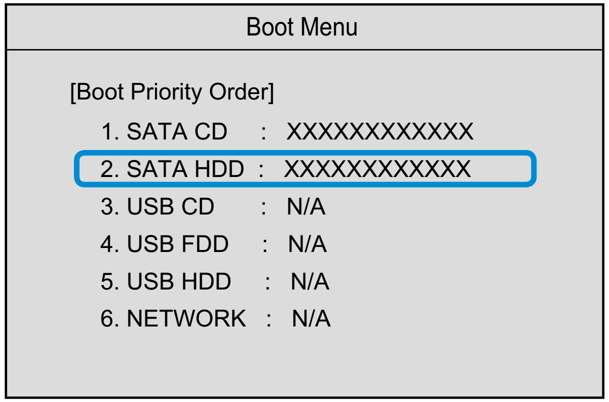
▸ Boot Device Priority

NumLock [Off]
Enable Keypad [By NumLock]
TouchPadMouse [Enabled]

InternalLAN [Enabled]
PXE OPROM [Disabled]

Smart Battery Calibration

3 Press the down key (↓) to move to the **SATA HDD** item and press the **F6** key to move up to the top item.



Boot Menu

[Boot Priority Order]
1. SATA CD : XXXXXXXXXXXX
2. SATA HDD : XXXXXXXXXXXX
3. USB CD : N/A
4. USB FDD : N/A
5. USB HDD : N/A
6. NETWORK : N/A

4 Press the **F10** key to save the settings and exit Setup.

The highest boot priority device is now set to the Hard Drive.

If you need to boot to **DOS** using a **USB** device, enter the BIOS Setup, select the **Advanced** menu and set the **Fast BIOS Mode** item to **Disabled**.

Upgrading Memory (Optional)

These descriptions are for models with a memory compartment cover. For the replacement or upgrade procedures for the memory of models that do not have a memory compartment cover, please ask for assistance from your service center.

There is one memory slot for the user to replace the corresponding memory.

Replace or install a new memory module only after shutting the computer down completely and separating the AC adapter from the computer.

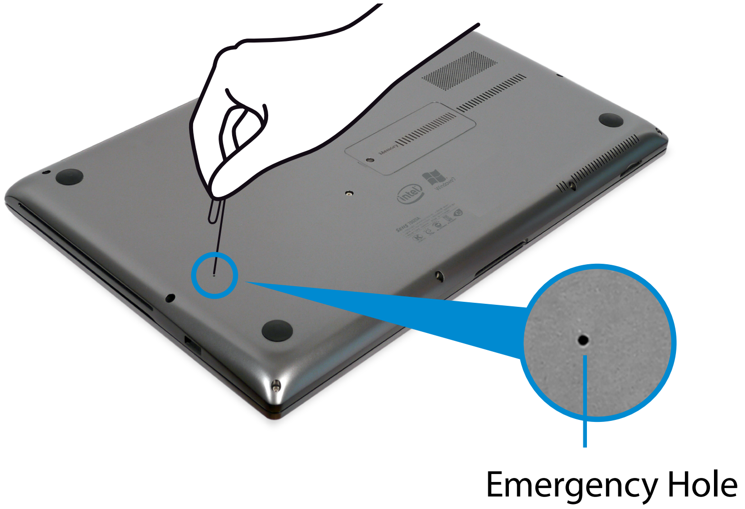
- It is recommended to add memory with the same specifications (the same manufacturer and capacity) as that of the installed memory.
- The images used for the illustration are of a representative model, therefore the images may differ from the the actual product.

Replacing Memory Modules

1 Disconnect the AC power adapter after turning off the computer.

2 Insert an object, such as a paper clip, into the **Emergency Hole** at the bottom of the computer to cut the battery power. If the Power button does not work anymore, that means you successfully shut the power off.

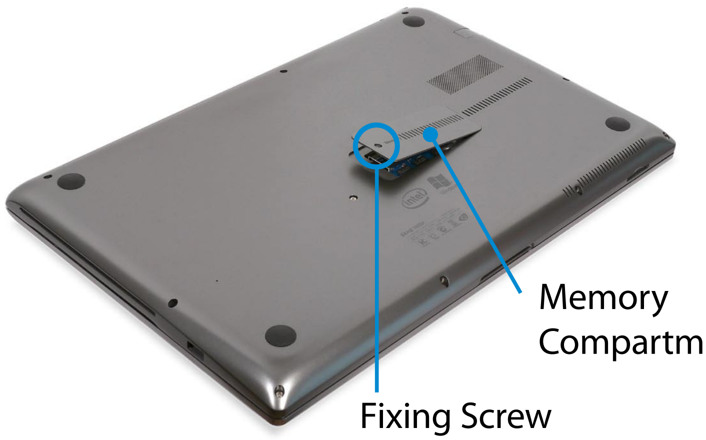
If you proceed without pressing the Emergency Hole, the main board and the memory module may be damaged.



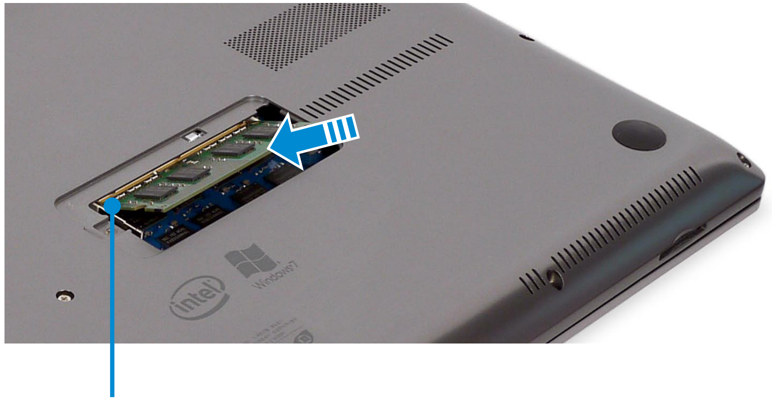
The location of the Emergency Battery Hole may differ depending on the model.

Upgrading Memory (Optional)

3 Remove the screw on the memory compartment cover at the bottom of the computer using a screw driver.

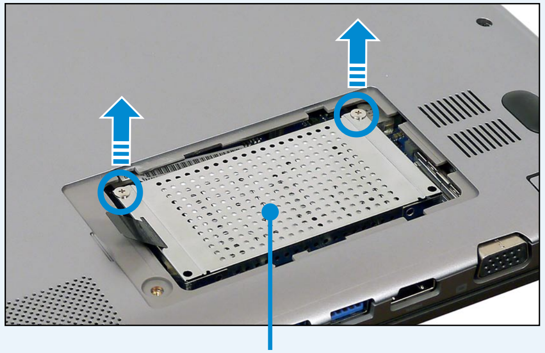

Memory
Compartment Cover
Fixing Screw

4 Insert a new memory module into the memory slot at an angle of approximately 30 degrees aligning it to the angle of the memory slot.

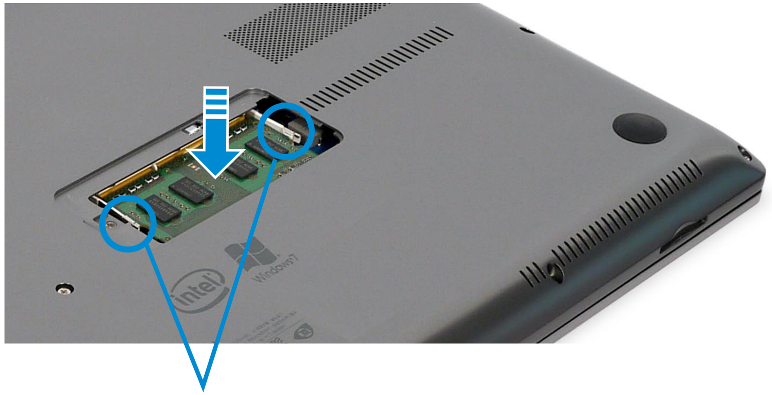

Memory Slot

If there is a protective memory cover

Loosen the fixing screw to remove the protective cover and insert the memory module.


Protective Memory Cover

5 Push the memory module down so that it is completely fixed. If the memory does not fit easily, push the memory module down while pulling the **memory module latches** outward.


Memory Module Latches

Upgrading Memory (Optional)

6 Close the memory compartment cover and fasten the screw.

If your computer has a protective memory cover, insert the protective memory cover before closing the memory compartment cover.

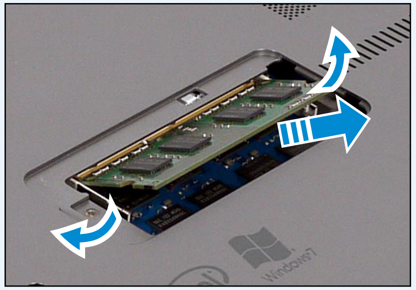
7 Connect the AC adapter and press the power button to turn the computer on.

If you do not connect the AC adapter, the computer will not be turned on even if you press the power button.

Removing a memory module

Pull the memory module latches outward.
The memory module will pop up.

Remove the memory module out at an angle of 30 degrees.



Battery

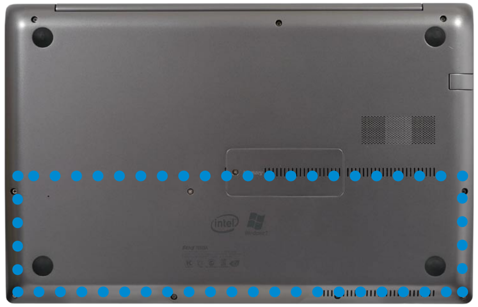
Please refer to the following instructions when running the computer on battery power without connecting the AC power.

This computer is equipped with an internal battery.

Precautions

- **Users cannot remove or replace the internal battery.**
- **To remove or replace the battery, use an authorized service center in order to protect the product and users. You will be charged for this service.**
- Use only chargers specified in the User Manual.
- Never heat the battery pack, put it near or in a fire or use at a temperature higher than 60°C, as this may cause fire.
- Please refer to the system operation environment of this manual and operate and store the battery at room temperature.

- Before using the computer for the first time, make sure to connect the AC adapter and charge the battery completely.
- The images used for the illustration are of a representative model, therefore the images may differ from the the actual product.



The location of the internal battery

Charging the Battery

1 An internal battery is embedded. Connect the AC adapter to the power input jack of the computer. The battery will start charging.

2 When charging is complete, the Charge LED turns green.

Status	Charge LED	
Charging	🔴 🟠	**Red** or **orange**
Charging complete	🟢	**Green**
AC adapter not connected	⚪	**Off**

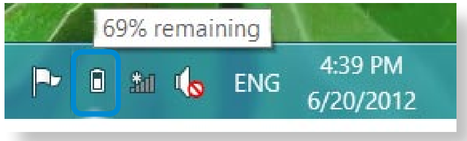
Battery

Measuring the Remaining Battery Charge

You can view the battery charge status by completing the following procedures.

Confirming the battery charge in the Taskbar

Disconnect the AC adapter and move the mouse cursor over the battery icon in the system tray of the Taskbar to confirm the remaining battery charge.



Battery Usage Time Information

A battery is an expendable supply, so when using it over a long time, the capacity/battery life is shortened. If the battery life is reduced to under half of its initial time, we recommend purchasing a new battery.

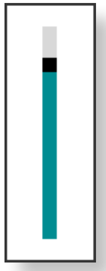
When not using the battery for a long time, store the battery after charging it to 30-40% of its capacity. This extends the battery life time.

Extending the Battery Usage Time

Decreasing the LCD Brightness

1 Click the **Charms menu** > **Settings** > **Screen Adjustment icon** .

2 Adjust the brightness with the screen brightness control bar. The battery life will be extended.



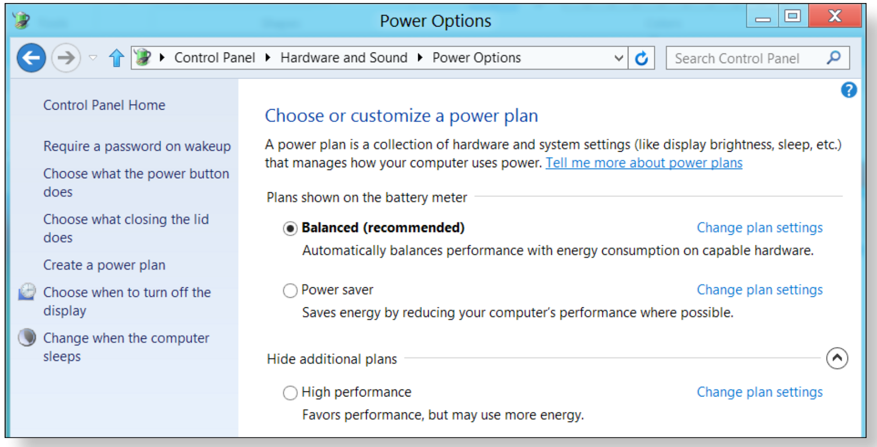
Using the power management program

This program helps you use the battery more efficiently and supports the power mode optimized for the operating environment.

1 Click **Charms menu** on the Desktop > **Settings** > **Control Panel** > **Hardware and Sound** > **Power Options**.

Alternatively, right-click the power measuring device icon in the notification area of the taskbar and select **Power Options**.

2 If the following screen appears, select one of the modes.


Power Options
Control Panel ▸ Hardware and Sound ▸ Power Options
Search Control Panel
Control Panel Home
Require a password on wakeup
Choose what the power button does
Choose what closing the lid does
Create a power plan
Choose when to turn off the display
Change when the computer sleeps

Choose or customize a power plan

A power plan is a collection of hardware and system settings (like display brightness, sleep, etc.) that manages how your computer uses power. Tell me more about power plans

Plans shown on the battery meter

● **Balanced (recommended)** Change plan settings
Automatically balances performance with energy consumption on capable hardware.

○ Power saver Change plan settings
Saves energy by reducing your computer's performance where possible.

Hide additional plans

○ High performance Change plan settings
Favors performance, but may use more energy.

Using the Battery Calibration Function

When charging/discharging the battery repeatedly for a short time only, the battery usage time may be reduced by the difference between the actual battery charge and the remaining charge display.

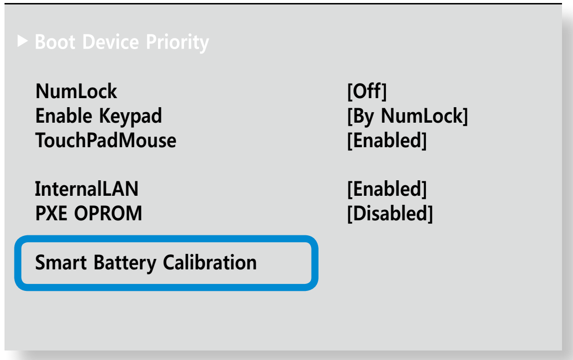
In this case, the actual battery charge and the remaining charge display will be the same by discharging the battery completely using the Battery Calibration function, and then recharging it again.

The screen images and terms may differ from actual product depending on the computer model and driver version.

1 Disconnect the AC power adapter after turning off the computer.

2 Turn the computer back on, and press the **F2** key to enter the Setup screen.

3 Move to the **Boot > Smart Battery Calibration** item using the direction keys and press <**Enter**>.



```
▸ Boot Device Priority

NumLock                           [Off]
Enable Keypad                     [By NumLock]
TouchPadMouse                     [Enabled]

InternalLAN                       [Enabled]
PXE OPROM                         [Disabled]

Smart Battery Calibration
```

4 Highlight **Yes** in the **Battery Calibration Confirmation** window and press <**Enter**>.

The Battery Calibration function is activated and the battery is forcefully discharged. To stop the operation, press the <**Esc**> button.

This operation requires 3~5 hours depending on the battery capacity and the remaining battery charge.

Chapter 5.
Troubleshooting

Recovering/Backing up the Computer (Optional) 108

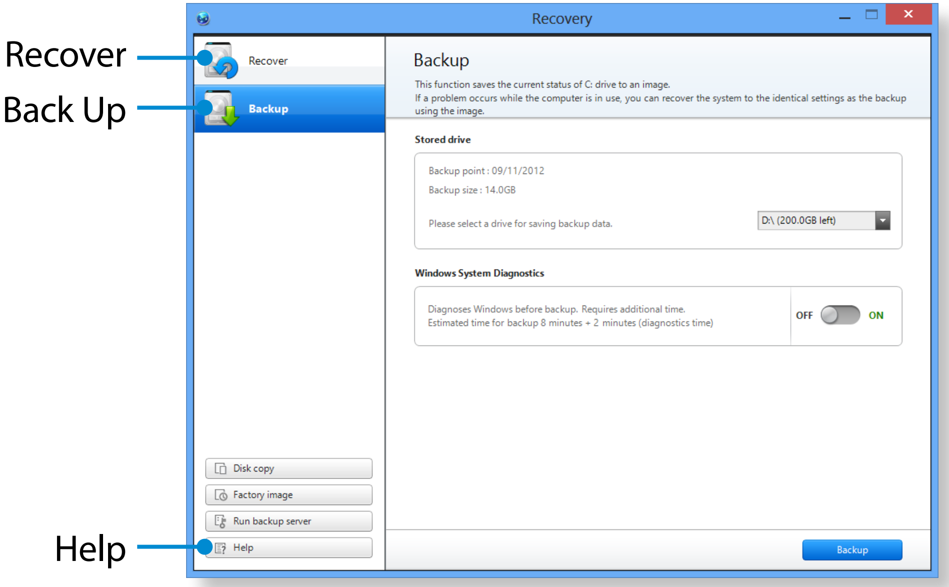
Reinstalling Windows (Optional) 115

Q&A 118

Recovering/Backing up the Computer (Optional)

If a problem occurs with your computer, **Recovery** (recovery program) allows you to easily restore your computer to the default (factory) settings. Alternatively, you can back up your computer so that you can restore it to your preferred state at any time.

Recovery Introduction



Backup

This function saves the current status of C: drive to an image.
If a problem occurs while the computer is in use, you can recover the system to the identical settings as the backup using the image.

Stored drive

Backup point : 09/11/2012
Backup size : 14.0GB
Please select a drive for saving backup data. D:\ (200.0GB left)

Windows System Diagnostics

Diagnoses Windows before backup. Requires additional time.
Estimated time for backup 8 minutes + 2 minutes (diagnostics time)
OFF ○ ON

Function	Description
Recover	Restores the entire Windows drive.
Back Up	You can back up your entire Windows drive.

- Recovery may not be provided or may be a different version depending on the model.
- For models whose hard disk or SSD capacity is less than 64 GB, the Recovery program is not provided.
- The instructions are provided based on Recovery 1.0 version. Some functions may differ slightly or be excluded depending on the version. Refer to the program's Help section for more information.
- An ODD (CD/DVD drive, etc.) is not supported by the Recovery program.

Recovering

You can recover your computer to the default (factory) status when your computer does not boot up.

1 - **If Windows does not start**

Turn your computer on and press the **F4** key.
Run recovery mode.

- **If Windows is running**

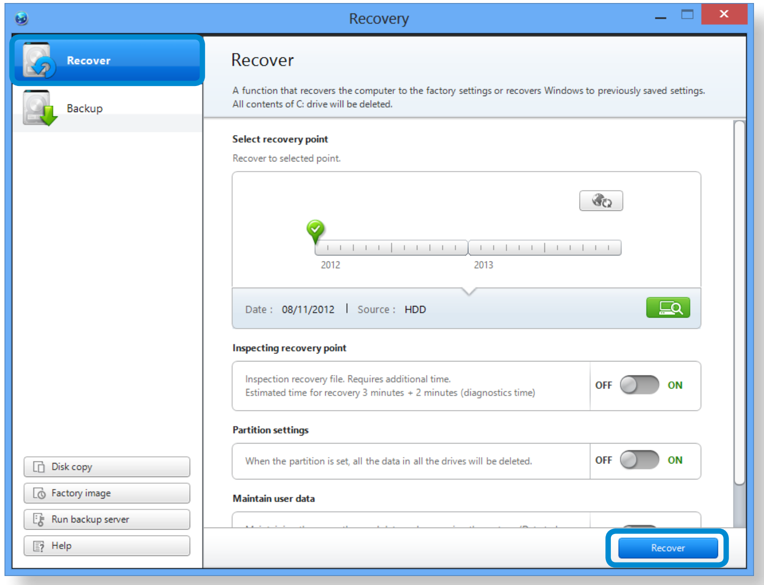
From the **Start Screen**, right-click any area and select **All apps** ☰ in the bottom right corner.
Then, click **Recovery**.

2 If the program is running for the first time, you need to agree to the **User Agreement**.

3 If the initial menu screen appears, click **Recover**.

Select a recovery point and click **Recover**.

If you set the User Data Maintenance to ON, the computer is restored while maintaining the current user data.



Recover

A function that recovers the computer to the factory settings or recovers Windows to previously saved settings.
All contents of C: drive will be deleted.

Select recovery point

Recover to selected point.

Date : 08/11/2012 | Source : HDD

Inspecting recovery point

Inspection recovery file. Requires additional time.
Estimated time for recovery 3 minutes + 2 minutes (diagnostics time)
OFF ON

Partition settings

When the partition is set, all the data in all the drives will be deleted.
OFF ON

Maintain user data

4 Recover is performed based on the screen instructions. If the recover is completed, you can use your computer normally.

Recovering/Backing up the Computer (Optional)

Recovering after a Backup

You can recover your computer after you have backed up your computer to a separate drive or external storage device.

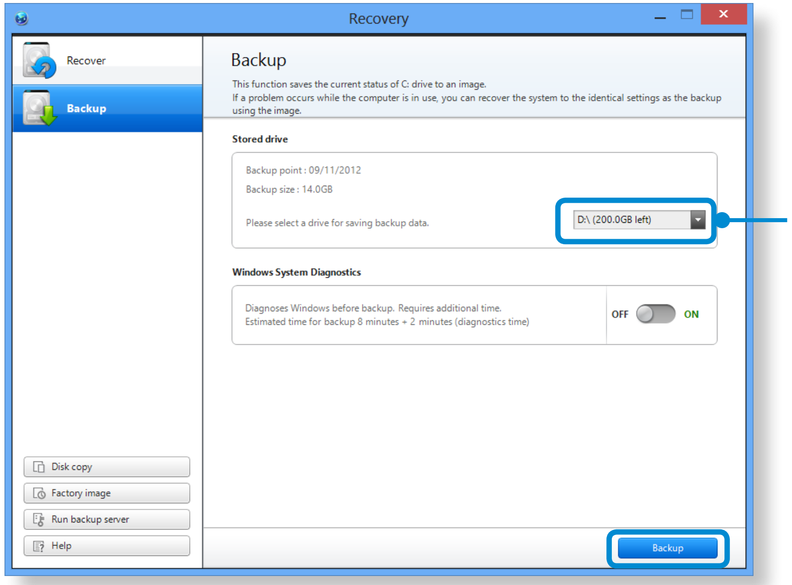
Backing up

1 To back up your computer to an external storage device, connect the external storage device and select the relevant drive.

2 Click **Backup** in the Recovery Home screen.

Select the drive to save and click **Backup.**

You cannot select a DVD drive.



Backup

This function saves the current status of C: drive to an image.
If a problem occurs while the computer is in use, you can recover the system to the identical settings as the backup using the image.

Stored drive

Backup point : 09/11/2012
Backup size : 14.0GB
Please select a drive for saving backup data. D:\ (200.0GB left)

Windows System Diagnostics

Diagnoses Windows before backup. Requires additional time.
Estimated time for backup 8 minutes + 2 minutes (diagnostics time)

Select the drive to save to.

3 The backup process is performed based on the instructions.

Recovering

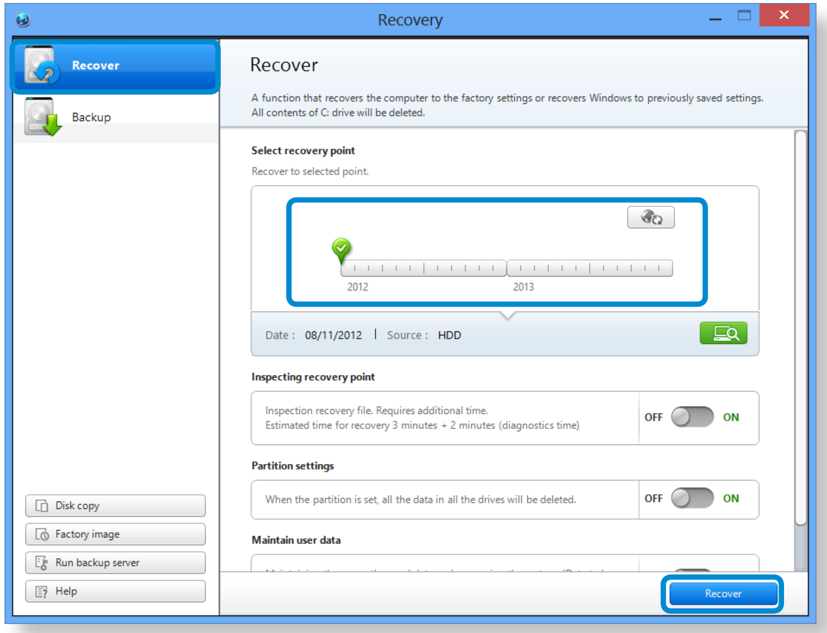
You can recover your computer using the backup from the above process.

1 If the backup image is saved to an external storage device, connect the device.

2 Start **Recovery** and click **Recover**.

3 Select a **Recover Option** and click **Recover**.

Select a point to recover.



Recover

A function that recovers the computer to the factory settings or recovers Windows to previously saved settings.
All contents of C: drive will be deleted.

Select recovery point

Recover to selected point.

Date : 08/11/2012 | Source : HDD

Inspecting recovery point

Inspection recovery file. Requires additional time.
Estimated time for recovery 3 minutes + 2 minutes (diagnostics time)

Partition settings

When the partition is set, all the data in all the drives will be deleted.

Maintain user data

4 The recover is performed based on the screen instructions. You can use your computer after the recover is completed.

To copy the external storage disk

When you replace a storage device such as the HDD, SSD, etc. (hereafter referred to as a hard disk) built into your computer, you can move your existing data to the new storage device easily and safely.

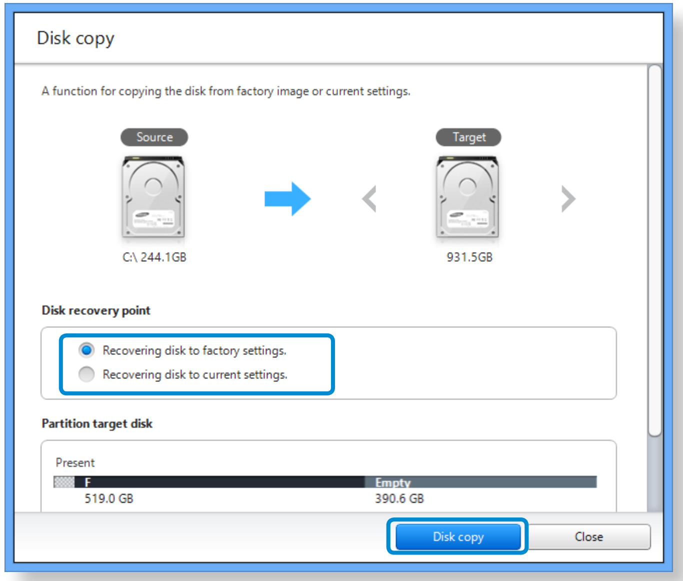
> The new storage device must have sufficient capacity to save your existing data.

> You need to purchase an external hard USB connector separately to connect the hard disk and your computer.

1. You need to purchase an external hard USB connector separately to connect the hard disk and your computer.

2. Start **Recovery** and click **Disk copy**.

3. Select an option in **Disk recovery Point** and click **Disk copy**.



Disk copy

A function for copying the disk from factory image or current settings.

Disk recovery point

● Recovering disk to factory settings.
○ Recovering disk to current settings.

Partition target disk

4. The data on the current hard disk is saved to the new hard disk.

5. If the data is completely saved, open the hard disk cover at the bottom of your computer and replace the existing hard disk with the new one.

> If you cannot open the cover at the bottom of the computer, contact the Samsung Service Center to request assistance.
>
> In this case, you may be charged for the relevant service.

6. Your computer is now equipped with a new hard disk.

   You can use your computer with a larger hard disk capacity with the same configuration as the old one.

Export Disk Image Function

If you frequently recover your computer to the default (factory) settings, you can conveniently recover your computer after exporting the default (factory) status disk image to an external storage device.

1. Connect the external storage device, and then select a drive to save to.

2. Click **Run**.

3. Perform the process by following the instructions to completely save the default (factory) status disk image to the external storage device.

   Now disconnect the saved external storage device and store it separately.

4. If your computer needs to be restored to the default (factory) settings, connect the external storage device with the saved image.

5. Start **Recovery** and click **Recover**. Select **Factory Default Point** and click **Recover**. The **Recover** process is started.

   When the recover process is finished, you can use your computer with the default (factory) settings.

Computer Recovery Function in Windows 8

If a problem occurs with your computer, the recovery program allows you to restore your computer to the default settings.

For models where the SSD is less than 64GB, use the Windows System Restore function instead of the Recovery program.

1 Click the **Charms menu** > **Settings** > **Change PC Settings** > **General**.

2 Click the **Start** button for **Refresh....** or **Remove.....**

Refresh....	If your PC does not work properly, you can restore your PC while keeping your media files such as your photo, video and music files, etc. as well as your personal documents.
Remove….	You can remove all items in your PC and reinstall Windows again.

You should back up the files in the following folders before using the PC Recovery function since these files are not kept.

\Windows, \Program files, \Program files(x86), \ProgramData, OEM Folder (ex) c:\samsung), \User\<user name>\AppData

3 Follow the onscreen instructions to proceed with the recovery process.

If the recovery is complete, you can use your computer normally.

You can restore required Samsung software programs through **All Apps** ☰ > **SW Update**.

Reinstalling Windows (Optional)

You can reinstall Windows using the **SYSTEM RECOVERY MEDIA** for Windows when Windows is no longer working properly.
(For models supplied with a SYSTEM RECOVERY MEDIA.)

For models supplied with the Samsung Recovery Solution, you can reinstall Windows using the Samsung Recovery

Solution.

These descriptions are for Windows 7/8 and Windows Vista and for supported models only.

- A **SYSTEM RECOVERY MEDIA** may not be supplied depending on your computer model.
- If you cannot start Windows, or if you want to delete all existing data and reinstall Windows, install Windows according to the descriptions in **[Reinstalling when Windows does not start]**.
- Some pictures may differ from actual product.
- These descriptions may differ depending on the operating system.

- Reinstalling Windows may delete data (files and programs) saved on the hard disk drive.
- Make sure to backup all important data. Samsung Electronics shall not be held liable for any loss of data.

Reinstalling in Windows

1 Insert the **SYSTEM RECOVERY MEDIA** into the DVD drive.

2 If the Select Windows Installation window appears, click **Install Now**. When the Select Update window appears, click on the relevant item.

- If you select **Go online to get the latest updates for installation** in the Select Update window, the latest updates are installed and Step 4 follows. At this time, the computer must be connected to the Internet.
- For Windows 7/8, the screen asking for the operating system to be installed may appear depending on the version. If you click the Next button, the screen of Step 3appears.

3 If the User Agreement screen appears, select **I accept the license terms** and then click **Next**.

For Windows 7/8, this screen may not appear depending on the version.

4 The following window appears, select an installation option.

If you click **Custom**, the procedures from Step 5 continue sequentially.
If you click **Upgrade**, the procedures from Step 6 continue sequentially.

- For Windows 7/8, this screen may not appear depending on the version.
- **Custom**
  Select this option to **Reinstall Windows**. You have to reinstall all necessary device drivers and programs after the Custom installation. In addition, unnecessary folders and files may remain on the hard disk drives after the installation (e.g. C:\ Windows.old, etc.).
- **Upgrade**
  Select this option to **Upgrade Windows** while maintaining current files, configurations and programs. Although you therefore do not need to reinstall the device drivers and programs, some programs may not work properly after the upgrade.

5 When a window appears asking for the location to install the operating system to, select a disk drive partition and click the **Next** button.

Drive D includes an area to save the backup image used by Samsung Recovery Solution. Installing Windows to drive C is recommended.

When previous Windows installation files are in the selected partition, a message appears informing you that the files and folders will be moved to the Windows. old folder. Click the **OK** button.

6 The Windows installation continues.

The computer will restart 3 times during the installation.

If the **Press any key to boot from CD or DVD...** message appears after a restart, do not press any button.

7 Register a user according to the instructions on the Windows screen.

8 When the registration is complete, the Windows Desktop screen appears.

For a smooth computer operation, installing the necessary software installation is recommended.

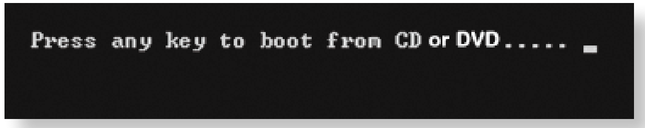
Reinstalling Windows (Optional)

Reinstalling when Windows does not start

When Windows does not start, boot up with the SYSTEM RECOVERY MEDIA and from there you can reinstall Windows.

1 Insert the **SYSTEM RECOVERY MEDIA** into the DVD drive and restart the computer.

2 If the **Press any key to boot from CD or DVD...** message appears while booting, press any key on the keyboard.



```
Press any key to boot from CD or DVD..... _
```

3 After a while, the Options windows such as Language, Time, Keyboard, etc. appear. Confirm the settings and click the **Next** button.

4 If the **Select Windows Installation** window appears, click **Install Now**.

For Windows 7/8, the screen asking for the operating system to be installed may appear depending on the version. If you click the **Next** button, the screen of Step 5 appears.

5 If the User Agreement screen appears, select **I accept the license terms** and then click **Next**.

For Windows 7/8, this screen may not appear depending on the version.

6 When the window asking for the installation type appears, click **Custom**.

For Windows 7/8, this screen may not appear depending on the version.

7 When a window appears asking for the location to install the operating system to, select the partition of the disk drive and then click the **Next** button.

Drive D includes an area to save the backup image used by Samsung Recovery Solution. Installing Windows to drive C is recommended.

- A If you click **Drive Options (Advanced)**, you can delete, format, create or expand a partition. Click on a function and proceed according to the instructions on the screen.
- When previous Windows installation files are in the selected partition, a message appears informing you that the files and folders will be moved to the Windows.old folder. Click the **OK** button.

8 The subsequent steps are the same as those from Step 7 of Installing in Windows.

You can look for potential problems that may occur with the system and view the relevant solutions. Also, you may look up any reference(s) required while operating the computer.

Recovery Related

Q1 What is a Recovery Area?

A Samsung computers have an additional partition to recover computers or save backup files. (Only for models with the Recovery.)

This partition is called a Recovery Area and it includes a recovery image that comprises of the OS and application programs.

Q2 The capacity representation of the hard disk drive(HDD) in Windows is different from the product specifications.

A The capacity of the storage device (HDD) of the manufacturer is calculated assuming that 1KB=1,000 Bytes. However, the operating system (Windows) calculates the storage device capacity assuming that 1KB=1,024 Bytes, and therefore the capacity representation of the HDD in Windows is smaller than the actual capacity.

The capacity representation in Windows may be smaller than the actual capacity because some programs occupy a certain area of the HDD outside of Windows.

For models with Recovery, the HDD capacity representation in Windows may be smaller than the actual capacity because Recovery uses a hidden area of about 5~20GB of the HDD to save the recovery image, and that hidden area is not counted towards the total size available to Windows.

The size of Recovery varies by models because of the different size of applied programs.

Q3 What is a recovery image?

A This refers to the computer status (including operating system, specific driver(s), software(s), etc.) which is converted to a data image. It is required to recover your computer and is embedded in the computer's hard disk. However, this is not provided for storage devices where the capacity is less than 64 GB due to the small capacity.

Q4 How can I restore a computer that does not have the Recovery program?

A You can restore the computer using the system recovery function provided by Windows.

Refer to the Restore Functionality item in the Help section for more details.

Windows 8 Related

Q1 I cannot find the Start button on the Desktop.

A There's no Start button in **Windows 8**.

You can use the Control Panel, PC-running menu(s), etc. by activating the **Charms menu**.

Q2 I cannot find the computer's Shutdown button.

A **Click the Charms menu** > **Settings** > **Power** to display the **Power Options** menu.

Click **Shutdown**.

Q3 The App disappeared in the Start screen.

A Click the **Charms menu** > **Search** to display all installed Apps. Right-click over the corresponding App to select in a Tile in the Start Screen.

Q4 Since I'm familiar with Windows 7, I would like the Desktop screen to appear as it does in Windows 7.

A Currently, there is no way to set the Desktop to appear by default.

Press the **Windows key + D key** simultaneously to reveal the Desktop when the Start screen appears. This is currently the only workaround.

Q5 How can I install a printer driver?

A Run your driver installation file and follow the corresponding instructions. You can install it in the same method as the existing OS.

Refer to your printer manual for detailed instructions for each model.

Q6 How can I uninstall the driver?

A On the Desktop, click **Charms menu** > **Settings** > **Control Panel** > **Programs and Features**.

Click the program. Then click **uninstall**.

Q7 How can I change the screen settings, environment settings, type size, color, and so on?

A Click **Charms menu > Settings > Change PC Settings > Personalization**. You can set the OS settings such as the screen design, etc.

To configure your computer in detail, click the **Charms menu** in **Desktop > Settings > Control Panel**.

You can configure your computer in the same way as existing Windows systems.

Q8 Active X does not run in Internet Explorer on the Start screen.

A Since Internet Explorer on the Start screen complies with the HTML5 web standards, it does not support Active X. However, Internet Explorer on the Desktop supports Active X.

► **How to activate Active X:**

If you right-click over the Internet Explorer, the following window appears. Press the 🔧 button and click **View on the Desktop**. Active X is now enabled.

Q9 I want to remove the pre-installed Windows 8 operating system and install a different OS.

A If you want to install a different operating system on your PC, you need to change the BIOS settings first.

For more information, visit http://www.samsung.com and go to **Customer Support > Troubleshooting**. Search for Windows 8 and look through the list of search results for the relevant issue.

Display Related

Q1 The Desktop displayed on the TV after connecting via the HDMI port does not fit the screen.

A Go to the Graphics Control Panel to adjust the screen settings.

► **For Intel graphics cards**

Right-click over the Desktop and go to **Graphics Properties > Display > General**. Adjust the **Horizontal Ratio** and **Vertical Ratio** settings to fit your screen and click **OK**.

► **For AMD graphics cards**

1. Right-click over the Desktop and select **Graphics Properties > Desktop and Display > My Digital Flat Panel > Expansion Options (Digital Flat Panel)**.
2. Adjust the control bar to fit the TV corners and click **Apply**.

Sound Related

Q1 I cannot hear any sound from the TV after connecting via the HDMI port.

A

1. Right-click over the taskbar on the Desktop and click **Play Device**.
2. Change the option to Digital Audio (HDMI), HDMI device, HDMI Output or another option and click **Set as Default**. Then click **OK**.

Others

Q1 You can configure your computer in the same way as existing Windows systems.

A If you want to start your computer in DOS via a USB device, set the **Fast BIOS Mode** item in the **Advanced** menu in the BIOS Setup to **Disabled** before using this feature.

Chapter 6.
Appendix

Important Safety Information 123
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Samsung Packaging Take-Back Program 144
TCO Certified 145
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Safety Instructions

Your system is designed and tested to meet the latest standards for safety of information technology equipment. However, to ensure safe use of this product, it is important that the safety instructions marked on the product and in the documentation are followed.

! Always follow these instructions to help guard against personal injury and damage to your system.

Setting Up your System

- Read and follow all instructions marked on the product and in the documentation before you operate your system. Retain all safety and operating instructions for future use.
- Do not use this product near water or a heat source such as a radiator.
- Set up the system on a stable work surface.
- The product should be operated only with the type of power source indicated on the rating label.
- Ensure that the electrical outlet you are using to power your equipment is easily accessible in case of fire or short circuit.
- If your computer has a voltage selector switch, make sure that the switch is in the proper position for your area.
- Openings in the computer case are provided for ventilation. Do not block or cover these openings. Make sure you provide adequate space, at least 6 inches (15 cm), around the system for ventilation when you set up your work area. Never insert objects of any kind into the computer ventilation openings.
- Ensure that the fan vents on the bottom of the casing are clear at all times. Do not place the computer on a soft surface, doing so will block the bottom vents.
- If you use an extension cord with this system, make sure that the total power rating on the products plugged into the extension cord does not exceed the extension cord power rating.
- For Notebooks with glossy display bezels the user should consider the placement of the Notebook as the bezel may cause disturbing reflections from surrounding light and bright surfaces.

Care During Use

- Do not walk on the power cord or allow anything to rest on it.
- Do not spill anything on the system. The best way to avoid spills is to not eat or drink near your system.
- Some products have a replaceable CMOS battery on the system board. There is a danger of explosion if the CMOS battery is replaced incorrectly. Replace the battery with the same or equivalent type recommended by the manufacturer.

  Dispose of batteries according to the manufacturers instructions. If the CMOS battery requires replacement insure that a qualified technician performs the task.
- When the computer is turned off, a small amount of electrical current still flows through the computer.
  To avoid electrical shock, always unplug all power cables, remove the battery and modem cables from the wall outlets before cleaning the system.
- Unplug the system from the wall outlet and refer servicing to qualified personnel if:
  - The power cord or plug is damaged.
  - Liquid has been spilled into the system.
  - The system does not operate properly when the operating instructions are followed.
  - The system was dropped or the casing is damaged.
  - The system performance changes.

The Instruction On Safety Operation of NotePC

1. When installing and operating devices please refer to safety requirements in the user guide.
2. Devices can be used only with the equipment specified in the technical specifications of the devices.
3. If any smell of burning or smoke is detected from the computer the unit should be switched off and battery removed. The unit should be checked by a qualified technician before reuse.
4. Service and repair of devices should be carried out by authorized service centers.
5. Do not allow your portable computer to operate with the base resting directly on exposed skin for extended periods of time. The surface temperature of the base will rise during normal operation (particularly when AC Power is present). Allowing sustained contact with exposed skin can cause discomfort or eventually a burn.

Replacement Parts and Accessories

Use only replacement parts and accessories recommended by manufacturer.

To reduce the risk of fire, use only No. 26 AWG or larger telecommunications line cord.

Do not use this product in areas classified as hazardous. Such areas include patient care areas of medical and dental facilities, oxygen rich environments, or industrial areas.

Battery Disposal

Do not put rechargeable batteries or products powered by non-removable rechargeable batteries in the garbage.

Contact the Samsung Helpline for information on how to dispose of batteries that you cannot use or recharge any longer.

Follow all local regulations when disposing of old batteries.

THERE IS A RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.

DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

Laser Safety

All systems equipped with CD or DVD drives comply with the appropriate safety standards, including IEC 60825-1. The laser devices in these components are classified as “Class 1 Laser Products” under a US Department of Health and Human Services (DHHS) Radiation Performance Standard. Should the unit ever need servicing, contact an authorized service location.

- **Laser Safety Note:**

  Use of controls or adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure. To prevent exposure to laser beams, do not try to open the enclosure of a CD or DVD drive.
- Class 1M laser radiation when operating part is open.

  Do not view directly with optical instruments.
- Class 3B invisible laser radiation when open.

  Avoid exposure to the beam.

Connect and Disconnect the AC adapter

The socket-outlet shall be installed near the equipment and shall be easily accessible.

Do not unplug the power cord by pulling the cable only.

Power Cord Requirements

The power cord set (wall plug, cable and AC adapter plug) you received with your computer meets the requirements for use in the country where you purchased your equipment.

Power cord sets for use in other countries must meet the requirements of the country where you use the computer. For more information on power cord set requirements, contact your authorized dealer, reseller, or service provider.

General Requirements

The requirements listed below are applicable to all countries:

- All power cord sets must be approved by an acceptable accredited agency responsible for evaluation in the country where the power cord set will be used.
- The power cord set must have a minimum current capacity of 7 A and a nominal voltage rating of 125 or 250 volts AC, as required by each country’s power system. (USA ONLY)
- The appliance coupler must meet the mechanical configuration of an EN 60 320/IEC 320 Standard Sheet C7 (or C5) connector, for mating with appliance inlet on the computer.

Wireless Guidance

(If fitted with 2.4G band or 5G band)

Low power, Radio LAN type devices (radio frequency (RF) wireless communication devices), operating in the 2.4GHz/5GHz Band, may be present (embedded) in your notebook system. The following section is a general overview of considerations while operating a wireless device.

Additional limitations, cautions, and concerns for specific countries are listed in the specific country sections (or country group sections). The wireless devices in your system are only qualified for use in the countries identified by the Radio Approval Marks on the system rating label. If the country you will be using the wireless device in, is not listed, please contact your local Radio Approval agency for requirements. Wireless devices are closely regulated and use may not be allowed.

The RF field strength of the wireless device or devices that may be embedded in your notebook are well below all international RF exposure limits as known at this time. Because the wireless devices (which may be embedded into your notebook) emit less energy than is allowed in radio frequency safety standards and recommendations, manufacturer believes these devices are safe for use. Regardless of the power levels, care should be taken to minimize human contact during normal operation.

Some circumstances require restrictions on wireless devices. Examples of common restrictions are listed on the next page:

- Radio frequency wireless communication can interfere with equipment on commercial aircraft. Current aviation regulations require wireless devices to be turned off while traveling in an airplane.
  802.11ABGN (also known as wireless Ethernet or Wifi) and Bluetooth communication devices are examples of devices that provide wireless communication.
- In environments where the risk of interference to other devices or services is harmful or perceived as harmful, the option to use a wireless device may be restricted or eliminated. Airports, Hospitals, and Oxygen or flammable gas laden atmospheres are limited examples where use of wireless devices may be restricted or eliminated. When in environments where you are uncertain of the sanction to use wireless devices, ask the applicable authority for authorization prior to use or turning on the wireless device.
- Every country has different restrictions on the use of wireless devices. Since your system is equipped with a wireless device, when traveling between countries with your system, check with the local Radio Approval authorities prior to any move or trip for any restrictions on the use of a wireless device in the destination country.
- If your system came equipped with an internal embedded wireless device, do not operate the wireless device unless all covers and shields are in place and the system is fully assembled.

- Wireless devices are not user serviceable. Do not modify them in any way. Modification to a wireless device will void the authorization to use it. Please contact manufacturer for service.
- Only use drivers approved for the country in which the device will be used. See the manufacturer System Restoration Kit, or contact manufacturer Technical Support for additional information.

United States of America

USA and Canada Safety Requirements and Notices

Do not touch or move antenna while the unit is transmitting or receiving.

Do not hold any component containing the radio such that the antenna is very close or touching any exposed parts of the body, especially the face or eyes, while transmitting.

Do not operate the radio or attempt to transmit data unless the antenna is connected; if not, the radio may be damaged.

Use in specific environments:

The use of wireless devices in hazardous locations is limited by the constraints posed by the safety directors of such environments.

The use of wireless devices on airplanes is governed by the Federal Aviation Administration (FAA).

The use of wireless devices in hospitals is restricted to the limits set forth by each hospital.

Explosive Device Proximity Warning

Do not operate a portable transmitter (such as a wireless network device) near unshielded blasting caps or in an explosive environment unless the device has been modified to be qualified for such use.

Use On Aircraft Caution

Regulations of the FCC and FAA prohibit airborne operation of radio-frequency wireless devices because their signals could interfere with critical aircraft instruments.

Other Wireless Devices

Safety Notices for Other Devices in the Wireless Network:
Refer to the documentation supplied with wireless Ethernet adapters or other devices in the wireless network.

The Part 15 radio device operates on a non-interference basis with other devices operating at this frequency. Any changes or modification to said product not expressly approved by Intel could void the user's authority to operate this device.

Unintentional Emitter per FCC Part 15

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions, it may cause harmful interference. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet helpful: "Something About Interference."

This is available at FCC local regional offices. Our company is not responsible for any radio or television interference caused by unauthorized modifications of this equipment or the substitution or attachment of connecting cables and equipment other than those specified by our company. The correction will be the responsibility of the user. Use only shielded data cables with this system.

Intentional emitter per FCC Part 15

(If fitted with 2.4G band or 5G band)

Low power, Radio LAN type devices (radio frequency (RF) wireless communication devices), operating in the 2.4GHz/5GHz Band, may be present (embedded) in your notebook system. This section is only applicable if these devices are present. Refer to the system label to verify the presence of wireless devices.

Wireless devices that may be in your system are only qualified for use in the United States of America if an FCC ID number is on the system label.

This device is restricted to indoor use due to its operation in the 5.15 to 5.25 GHz frequency range. FCC requires this product to be used indoors for the frequency range 5.15 to 5.25 GHz to reduce the potential for harmful interference to co-channel Mobile Satellite systems. High power radars are allocated as primary users of the 5.25 to 5.35 GHz and 5.65 to 5.85 GHz bands. These radar stations can cause interference with and /or damage this device.

Operation of this device is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation of the device.

! Wireless devices are not user serviceable. Do not modify them in any way.

Modification to a wireless device will void the authorization to use it. Contact manufacturer for service.

Health and safety information

Exposure to Radio Frequency (RF) Signals

Certification Information (SAR)

This product can be embedded a radio transmitter and receiver. It is designed and manufactured not to exceed the exposure limits for radio frequency (RF) energy set by the Federal Communications Commission (FCC) of the U.S. government. These FCC exposure limits are derived from the recommendations of two expert organizations, the National Council on Radiation Protection and Measurement (NCRP) and the Institute of Electrical and Electronics Engineers (IEEE). In both cases, the recommendations were developed by scientific and engineering experts drawn from industry, government, and academia after extensive reviews of the scientific literature related to the biological effects of RF energy.

The exposure limit set by the FCC for wireless devices employs a unit of measurement known as the Specific Absorption Rate (SAR). The SAR is a measure of the rate of absorption of RF energy by the human body expressed in units of watts per kilogram (W/kg). The FCC requires wireless devices to comply with a safety limit of 1.6 watts per kilogram (1.6 W/kg). The FCC exposure limit incorporates a substantial margin of safety to give additional protection to the public and to account for any variations in measurements.

SAR tests are conducted using standard operating positions accepted by the FCC with the wireless transmitting at its highest certified power level in all tested frequency bands. Although the SAR is determined at the highest certified power level, the actual SAR level of the device while operating can be well below the maximum value. This is because the device is designed to operate at multiple power levels so as to use only the power required to reach the network. In general, the closer you are to a wireless base station antenna, the lower the power output.

Before a new model is available for sale to the public, it must be tested and certified to the FCC that it does not exceed the exposure limit established by the FCC. Tests for each model are performed in positions and locations (e.g. at the bottom on the body) as required by the FCC.

For body worn operation, this model has been tested and meets the FCC RF exposure guidelines when used with a Samsung accessory designated for this product. Non-compliance with the above restrictions may result in violation of FCC RF exposure guidelines.

SAR information on this and other model can be viewed on-line at http://www.fcc.gov/oet/ea/fccid/. This site uses this product FCC ID number on the outside of the product. Sometimes it may be necessary to remove the battery pack to find the number. Once you have the FCC ID number for a particular product, follow the instructions on the website and it should provide values for typical or maximum SAR for a particular product.

FCC Part 68 (If fitted with a modem device.)

This equipment complies with part of the FCC rules. On the back of this equipment is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

This equipment uses the following USOC jacks : RJ11C

An FCC compliant telephone cord and modular plug is provided with this equipment. This equipment is designed to be connected to the telephone network or promises wiring using a compatible modular jack which is Part 68 compliant. See Installation Instructions for details.

The REN is used to determine the quantity of devices which may be connected to telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by total RENs, contact the local telephone company to determine the maximum REN for the calling area.

If the terminal equipment causes harm to the telephone network, the Telephone Company will notify you in advance that temporary discontinuance of service may be required. But if advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advanced notice in order for you to make necessary modifications to maintain uninterrupted service.

If trouble is experienced with this equipment (Modem) for repair or warranty information, please contact your local distributor. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

The user must use the accessories and cables supplied by the manufacturer to get optimum performance from the product.

No repairs may be done by the customer.

This equipment cannot be used on public coin phone service provided by the telephone company. Connection to party line service is subject to state tariffs.

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device, including fax machines, to send any message unless such message clearly contains in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it is sent and an identification of the business or other entity, or other individual sending the message and the telephone number of the sending machine or such business, other entity, or individual. (The telephone number provided may not be any number for which charges exceed local or long-distance transmission charges.)

In order to program this information into your fax machine, refer to your communications software user manual.

Canada

Unintentional Emitter per ICES-003

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of Industry Canada.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limitesapplicables aux appareils numériques de Classe B prescrites dans le règlement sur le brouillage radioélectrique édicté par Industrie Canada.

Intentional Emitter per RSS 210

This device complies with RSS 210 of Industry Canada. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of this device."

L' utilisation de ce dispositif est autorisée seulement aux conditions suivantes : (1) il ne doit pas produire de brouillage et (2) l' utilisateur du dispositif doit étre prêt à accepter tout brouillage radioélectrique reçu, même si ce brouillage est susceptible de compromettre le fonctionnement du dispositif.

The term "IC" before the equipment certification number only signifies that the Industry Canada technical specifications were met. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (EIRP) is not more than that required for successful communication. To prevent radio interference to the licensed service, this device is intended to be operated indoors and away from windows to provide maximum shielding. Equipment (or its transmit antenna) that is installed outdoors is subject to licensing.

Pour empecher que cet appareil cause du brouillage au service faisant l'objet d'une licence, il doit etre utilize a l'interieur et devrait etre place loin des fenetres afin de Fournier un ecram de blindage maximal. Si le matriel (ou son antenne d'emission) est installe a l'exterieur, il doit faire l'objet d'une licence.

(If fitted with 2.4G band or 5G band)

Low power, Radio LAN type devices (radio frequency (RF) wireless communication devices), operating in the 2.4GHz/5GHz Band, may be present (embedded) in your notebook system. This section is only applicable if these devices are present. Refer to the system label to verify the presence of wireless devices.

Wireless devices that may be in your system are only qualified for use in Canada if an Industry Canada ID number is on the system label.

When using IEEE 802.11a wireless LAN, this product is restricted to indoor use due to its operation in the 5.15- to 5.25-GHz frequency range. Industry Canada requires this product to be used indoors for the frequency range of 5.15 GHz to 5.25 GHz to reduce the potential for harmful interference to co-channel mobile satellite systems. High power radar is allocated as the primary user of the 5.25- to 5.35-GHz and 5.65 to 5.85-GHz bands. These radar stations can cause interference with and/or damage to this device.

The maximum allowed antenna gain for use with this device is 6dBi in order to comply with the E.I.R.P limit for the 5.25- to 5.35 and 5.725 to 5.85 GHz frequency range in point-to-point operation.

The power output of the wireless device (or devices), which may be embedded in your notebook, is well below the RF exposure limits as set by Industry Canada.

Operation of this device is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation of the device.

> ! To prevent radio interference to licensed service, this device is intended to be operated indoors and away from windows to provide maximum shielding. Equipment (or its transmit antenna) that is installed outdoors is subject to licensing.

> ! Wireless devices are not user serviceable. Do not modify them in any way. Modification to a wireless device will void the authorization to use it. Contact manufacturer for service.

(Si l'appareil est équipé d'une bande 2,4 G ou 5 G)

Des dispositifs de basse puissance, de type radio LAN (périphériques de communication sans fil par radiofréquence RF) fonctionnant sur une bande de 2.4GHz/5GHz sont peut-être intégrés dans votre appareil. Cette section est applicable uniquement si ces dispositifs sont présents. Consultez l'étiquette du système pour vérifiez la présence de dispositifs sans fil.

Les dispositifs sans fil qui peuvent être intégrés dans votre système sont uniquement aptes pour une utilisation au Canada si l'étiquette du système présente un nombre d'identification d'Industrie Canada.

En cas d'utilisation d'un LAN sans fil IEEE 802.11a, ce produit ne peut être utilisé qu'à l'intérieur en raison de son fonctionnement dans une plage des fréquences allant de 5,15 à 5,25 GHz. Industrie Canada exige l'utilisation de ce produit à l'intérieur pour une plage des fréquences allant de 5,15 à 5,25 GHz afin de réduire les éventuelles interférences nuisibles avec les systèmes mobiles par satellite du même canal. Le radar de grande puissance est considéré comme l'utilisateur principal des bandes de 5,25 à 5,35 GHz et de 5,65 à 5,85 GHz. Ces stations radar peuvent provoquer des interférences avec ce périphérique et/ou l'endommager.

Le gain d'antenne maximum autorisé avec ce périphérique est de 6 dBi afin de respecter la limite de P.I.R.E. pour une plage des fréquences de 5,25 à 5,35 GHz et de 5,725 à 5,85 GHz dans un fonctionnement point à point.

La sortie de puissance du dispositif sans fil (ou des dispositifs) qui peut être intégré dans votre système est bien inférieure aux limites d'exposition de RF établies par Industrie Canada.

Son utilisation est soumise aux deux conditions suivantes : 1) ce dispositif ne peut pas provoquer d’interférences nuisibles et 2 2) ce dispositif doit accepter toute interférence reçue, y compris les interférences qui peuvent provoquer des anomalies dans le système.

Afin de prévenir des interférences de radio au service autorisé, ce dispositif est prévu pour être utilisé à l’intérieur et éloigné des fenêtres pour fournir une protection maximum. Un équipement (ou son antenne de transmission) qui est installé à l’extérieur est sujet à une autorisation.

Les dispositifs sans fil ne peuvent pas être réparés par l’utilisateur. Ne les modifiez en aucune façon. La modification d’un dispositif sans fil annulera votre autorisation à son utilisation. Contactez le fabricant pour la réparation.

Telecommunications per DOC notice (for products fitted with an IC-compliant modem)

The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operation, and safety requirements. The Department does not guarantee the equipment will operate to the users’ satisfaction.

Before installing this equipment, users should make sure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the inside wiring associated with a single-line individual service may be extended by means of a certified connector assembly. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should make sure, for their own protection, that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

To avoid electrical shock or equipment malfunction do not attempt to make electrical ground connections by yourself. Contact the appropriate inspection authority or an electrician, as appropriate.

The **Ringer Equivalence Number** (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5.

Déclarations sur les télécommunications selon DOC (pour des produits munis d'un modem homologué par la IC)

L'étiquette d'Industrie Canada identifie un équipement autorisé. Cette autorisation signifie que l'équipement satisfait certaines exigences pour la sécurité, fonctionnement et protection des réseaux téléphoniques. Le département ne garantie pas que l'équipement fonctionne comme le désirerait l'utilisateur.

Avant d'installer l'équipement, les utilisateurs doivent s'assurer que leur connexion aux installations de la compagnie de télécommunication locale soit permise.

L'équipement doit être également installé selon une méthode acceptable de connexion. Dans certains cas, l'installation électrique associée à un service de ligne individuel peut être rallongé par un connecteur homologué. Le client doit savoir que la conformité aux conditions précédentes ne garantit pas un fonctionnement parfait dans toutes les situations.

Les réparations de l'équipement homologué doivent être effectuées dans les installations de maintenance canadiennes autorisées par le fournisseur. Les réparations ou modifications effectuées par l'utilisateur sur cet équipement, ou anomalies de l'équipement, peuvent faire que la compagnie de télécommunication demande la déconnexion de l'équipement.

Les utilisateurs doivent s'assurer, pour leur propre protection, que les raccordements électriques à la terre, les lignes de téléphone et l'infrastructure de la conduite d'eau, si il y en a, sont connectés ensemble. Cette précaution peut être particulièrement importante dans les zones rurales.

Afin d'éviter une électrocution ou le disfonctionnement de l'équipement, n'essayez pas de faire vous-même les raccordements électriques à la terre. Contactez l'autorité inspectrice adéquate ou un électricien, selon il conviendra.

Le **Numéro d'équivalence d'appel** (REN) attribué à chaque dispositif terminal fourni une indication du nombre maximum de terminales qui peuvent être connectées à une interface téléphonique. Le bout d'une interface peut contenir n'importe quelle combinaison de dispositifs sujets uniquement à la condition que le total des numéros d'équivalence d'appel de tous les dispositifs ne dépasse pas 5.

Brazil

Este produto esta homologado pela ANATEL, de acordo com os procedimentos regulamentados pela Resolucao 242/2000, e atende aos requisitos tecnicos aplicados.

Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.

European Union

European Union CE Marking and Compliance Notices

Products intended for sale within the European Union are marked with the Conformité Européene (CE) Marking, which indicates compliance with the applicable Directives and European standards and amendments identified below. This equipment also carries the Class 2 identifier.

The following information is only applicable to systems labeled with the CE mark CE.

European Directives CE

This Information Technology Equipment has been tested and found to comply with the following European directives:

- EMC Directive 2004/108/EC
- Low Voltage Directive 2006/95/EC
- R&TTE Directive 1999/5/EC

Manufacturer Information

Samsung Electronics Co., Ltd.

416, Maetan-3Dong, Yeongtong-Gu, Suwon-City, Gyeonggi-Do,
443-742, Korea

Samsung Electronics Suzhou Computer Co., Ltd.

No. 198, Fangzhou Road, Suzhou Industrial Park, Jiangsu Province,
215021, China

Tel: +86-512-6253-8988

For the web or the phone number of Samsung Service Centre, see the Warranty or contact the retailer where you purchased your product.

European Radio Approval Information (for products fitted with EU-approved radio devices)

This Product is a Notebook computer; low power, Radio LAN type devices (radio frequency (RF) wireless communication devices), operating in the 2.4GHz/5GHz band, may be present (embedded) in your notebook system which is intended for home or office use. This section is only applicable if these devices are present. Refer to the system label to verify the presence of wireless devices.

CE (!)

Wireless devices that may be in your system are only qualified for use in the European Union or associated areas if a CE mark CE with a Notified Body Registration Number and the Alert Symbol is on the system label.

The power output of the wireless device or devices that may be embedded in you notebook is well below the RF exposure limits as set by the European Commission through the R&TTE directive.

The low band 5.15 - 5.35 GHz is for indoor use only.

> ! See 802.11b and 802.11g restrictions for specific countries or regions within countries under the heading “European Economic Area Restrictions” below.

EU R&TTE Compliance Statements

cs	**Česky [Czech]**	Samsung tímto prohlašuje, že tento Notebook PC je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
da	**Dansk [Danish]**	Undertegnede Samsung erklærer herved, at følgende udstyr Notebook PC overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
de	**Deutsch [German]**	Hiermit erklärt Samsung, dass sich das Gerät Notebook PC in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
et	**Eesti [Estonian]**	Käesolevaga kinnitab Samsung seadme Notebook PC vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
en	**English**	Hereby, Samsung, declares that this Notebook PC is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
es	**Español [Spanish]**	Por medio de la presente Samsung declara que el Notebook PC cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.

el	**Ελληνική [Greek]**	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Samsung ΔΗΛΩΝΕΙ ΟΤΙ Notebook PC ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
fr	**Français [French]**	Par la présente Samsung déclare que l’appareil Notebook PC est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
it	**Italiano [Italian]**	Con la presente Samsung dichiara che questo Notebook PC è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
lv	**Latviski [Latvian]**	Ar šo Samsung deklarē, ka Notebook PC atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
lt	**Lietuvių [Lithuanian]**	Šiuo Samsung deklaruoja, kad šis Notebook PC atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
nl	**Nederlands [Dutch]**	Hierbij verklaart Samsung dat het toestel Notebook PC in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
mt	**Malti [Maltese]**	Hawnhekk, Samsung, jiddikjara li dan Notebook PC jikkonforma mal-ħtiāijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.

hu	**Magyar [Hungarian]**	Alulírott, Samsung nyilatkozom, hogy a Notebook PC megfelel a vonatkozó alapvetõ követelményeknek és az 1999/5/EC irányelv egyéb elõírásainak.
pl	**Polski [Polish]**	Niniejszym Samsung oświadcza, Ŝe Notebook PC jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
pt	**Português [Portuguese]**	Samsung declara que este Notebook PC está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
sl	**Slovensko [Slovenian]**	Samsung izjavlja, da je ta Notebook PC v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
sk	**Slovensky [Slovak]**	Samsung týmto vyhlasuje, že Notebook PC spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
fi	**Suomi [Finnish]**	Samsung vakuuttaa täten että Notebook PC tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
sv	**Svenska [Swedish]**	Härmed intygar Samsung att denna Notebook PC står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

	Íslenska [Icelandic]	Hér með lýsir Samsung yfir því að Notebook PC er í samræmi við grunnkröfur og aðrar kröfur, sem gerðar eru í tilskipun 1999/5/EC.
no	**Norsk [Norwegian]**	Samsung erklærer herved at utstyret Notebook PC er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 1999/5/EF.
	Türkiye [Türkçe]	Bu belge ile, Samsung bu Notebook PC’nin 1999/5/EC Yönetmeliğinin temel gerekliliklerine ve ilgili hükümlerine uygun olduğunu beyan eder.

To view the EU Declaration of Conformity for this product (in English only), go to: http://www.samsung.com/uk/support/download/supportDownMain.do then search the model number of the product.

If the Declaration of Conformity for the model you are interested in is not available on our web-site, please contact your distributor.

European Economic Area Restrictions

Local Restriction of 802.11b/802.11g Radio Usage

[Note to integrator: The following statements on local restrictions must be published in all end-user documentation provided with the system or product incorporating the wireless product.]

Due to the fact that the frequencies used by 802.11b/802.11g wireless LAN devices may not yet be harmonized in all countries, 802.11b/802.11g products are designed for use only in specific countries or regions, and are not allowed to be operated in countries or regions other than those of designated use.

As a user of these products, you are responsible for ensuring that the products are used only in the countries or regions for which they were intended and for verifying that they are configured with the correct selection of frequency and channel for the country or region of use. Any deviation from permissible settings and restrictions in the country or region of use could be an infringement of local law and may be punished as such.

The European variant is intended for use throughout the European Economic Area. However, authorization for use is further restricted in particular countries or regions within countries, as follows:

General

European standards dictate maximum radiated transmit power of 100 mW effective isotropic radiated power (EIRP) and the frequency range 2400 – 2483.5 MHz.

The low band 5.15 - 5.35 GHz is for indoor use only.

Belgium

The product may be used outdoors, but for outdoor transmissions over a distance of 300m or more, a license from the BIPT is required.

This restriction should be indicated in the manual as follows:

Dans le cas d'une utilisation privée, à l'extérieur d'un bâtiment, au-dessus d'un espace public, aucun enregistrement n'est nécessaire pour une distance de moins de 300m. Pour une distance supérieure à 300m un enregistrement auprès de l'IBPT est requise. Pour une utilisation publique à l'extérieur de bâtiments, une licence de l'IBPT est requise. Pour les enregistrements et licences, veuillez contacter l'IBPT.

France

For Metropolitan departments:

2.400 - 2.4835 GHz for indoor use.

2.400 - 2.454 GHz (channels 1 to 7) for outdoor use.

For Guadeloupe, Martinique, St Pierre et Miquelon, Mayotte:

2.400 - 2.4835 GHz for indoor and outdoor use.

For Reunion, Guyane:

2.400 - 2.4835 GHz for indoor use.

2.420 - 2.4835 GHz for outdoor use (channels 5 to 13)

The low band 5.15 - 5.35 GHz is for indoor use only.

European Telecommunication Information (for products fitted with EU-approved modems)

Marking by the symbol CE indicates compliance of this equipment to the Radio and Telecom Terminal Equipment Directive 1999/5/EC. Such marking is indicative that this equipment meets or exceeds the following technical standards:

CTR 21 - Attachment requirements for pan-European approval for connection to the analogue Public Switched Telephone Networks (PSTNs) of TE (excluding TE supporting voice telephony services) in which network addressing, if provided, is by means of Dual Tone Multi-Frequency (DTMF) signaling.

> Although this equipment can use either loop disconnect (pulse) or DTMF (tone) signaling, only the performance of the DTMF signaling is subject to regulatory requirements for correct operation.
>
> It is therefore strongly recommended that the equipment is set to use DTMF signaling for access to public or private emergency services. DTMF signaling also provides faster call setup.

This equipment has been approved to Council Decision 98/482/EEC - “CTR 21” for Pan-European single terminal connection to the Public Switched Telephone Network (PSTN).

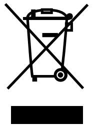
However, due to differences between the individual PSTNs provided in different countries, the approval does not, of itself, give an unconditional assurance of successful operation on every PSTN termination point. In the event of problems, you should contact manufacturer Technical Support.

RTC CAUTION

CAUTION : Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the Manufacturer’s instruction.

Attention: Danger d’explosion si les piles sont mal palcées. Remplacez les piles usagées uniquement par des piles de type identique ou équivalent recommandees par is fabriquant. Otez les piles usagées selon les instructions du fabriquant.

WEEE Symbol Information



Correct disposal of this product (Waste Electrical & Electronic Equipment)

(Applicable in countries with separate collection systems)

This marking on the product, accessories or literature indicates that the product and its electronic accessories (e.g. charger, headset, USB cable) should not be disposed of with other household waste at the end of their working life.

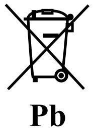
To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product and its electronic accessories should not be mixed with other commercial wastes for disposal.

India Only

For more information on safe disposal and recycling visit our website www.samsung.com/in or contact our Helpline numbers - 18002668282, 180030008282.



Correct disposal of batteries in this product

(Applicable in countries with separate collection systems)

This marking on the battery, manual or packaging indicates that the batteries in this product should not be disposed of with other household waste at the end of their working life. Where marked, the chemical symbols Hg, Cd or Pb indicate that the battery contains mercury, cadmium or lead above the reference levels in EC Directive 2006/66. If batteries are not properly disposed of, these substances can cause harm to human health or the environment.

To protect natural resources and to promote material re-use, please separate batteries from other types of waste and recycle them through your local, free battery return system.

USA ONLY

This Perchlorate warning applies only to primary CR (Maganese Dioxide) Lithium coin cells in the product sold or distributed ONLY in California USA.
“Perchlorate Material- special handling may apply, See www.dtsc.ca.gov/hazardouswaste/perchlorate.”

Dispose unwanted electronics through an approved recycler.

To find the nearest recycling location, go to our website:
www.samsung.com/recyclingdirect Or call, (877) 278-0799

For battery recycling go to call2recycle.org; or call 1-877-723-1297

Samsung Packaging Take-Back Program

In partnering with select recyclers, Samsung offers packaging take-back at no cost to you.

Simply call the following number for the locations nearest you.

CRT Processing, LLC

(877) 278-0799

Kathy Severson – Logistics contact

Dispose unwanted electronics through an approved recycler.

To find the nearest recycling location, go to our website:

www.samsung.com/recyclingdirect Or call, (877) 278-0799

TCO Certified (for corresponding models only)

Congratulations!

This product is TCO Certified for Usability and the Environment.

The product you have just purchased carries the TCO Certified label. This means that your computer is designed, manufactured and tested according to some of the strictest performance and environmental criteria in the world. That makes for a high performance product designed with the user in focus and one that also minimizes the impact on the climate and our natural environment.

TCO Certified is a third party verified program, where every product model is tested by an accredited impartial test laboratory. All criteria have been developed by TCO Development in collaboration with scientists, product experts, users as well as manufacturers all over the world.

Here are some of the features offered with this product:

Usability – Designed for You

- Good visual ergonomics and image quality, ensuring top performance and reduced risk of eye strain. Several requirements within the area of luminance, contrast, resolution and color
- Designed with the option to connect an external display, keyboard and mouse (recommended when working with a notebook or netbook for longer periods)
- Ergonomic keyboard design – for ease of use and good readability
- Fully tested according to rigorous safety standards
- Low Electric and Magnetic field emissions. Low acoustic noise levels

Environment– Designed for the Planet

- Brand demonstrates corporate social responsibility and has a certified environmental management system (EMAS or ISO 14001)
- Very low energy consumption both in idle- and standby mode, reducing climate impact
- Restrictions on hazardous materials: chlorinated and brominated flame retardants, plasticizers, plastics and heavy metals such as cadmium, mercury, lead and hexavalent chromium (mercury ban and limits on hazardous flame retardants go beyond RoHS compliance)
- Both product and product packaging are designed for recycling
- The brand company offers take-back options

For more information, please visit

www.tcodevelopment.com

TCO Certified – Technology for You and the Planet

TCOF1190 TCO Document Version 2.0

Product Specifications

The system specifications may differ depending on the derived models.

For detailed system specifications, refer to the product catalogue.

CPU (Optional)	Intel® Core™ i5/i7 Processor
Main Memory	Memory type: DDR3 SODIMM
Main Chipset	Intel HM76
Storage Device (Optional)	9.5mmH SATA 2 HDD SSD
Graphics (Optional)	AMD Radeon™ HD 8870M (PowerExpress) AMD Radeon™ HD 8770M (PowerExpress) AMD Radeon™ HD 8850M (PowerExpress) AMD Radeon™ HD 8750M (PowerExpress) Intel® HD Graphics (Internal)
Operating Environment	Temperature: -5~40°C for storage, 10~35°C when operating Humidity: 5~90% for storage, 20~80% when operating
AC/DC Rating (Optional)	Input: 100-240VAC, 50 ~ 60Hz, Output: 19VDC 3.16A, 19VDC 4.74A
PC Rating (Optional)	19VDC 3.16A (60W), 19VDC 4.74A (90W)

- Optional components may not be provided or different components may be provided depending on the computer model.
- The system specifications are subject to change without notice.
- The Storage device capacity of a computer in which Recovery is installed, is represented as smaller than the product specification.
- The amount of memory that Windows can use may be smaller than the actual amount of memory available.

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ENERGY STAR® Partner

As an ENERGY STAR® Partner, SAMSUNG has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

HDMI

The Glossary lists the terminologies used in this User Guide. For terminologies other than these, look in Windows Help.

Backup

A way to save the current data to restore it later if necessary.
A backup is a way to restore computer data when the data or computer is damaged.

Chargeable USB

This program enables supplying power to a specific USB port when the system is in power saving mode, hibernation mode or off.

Client

This refers to a computer that uses a shared network resource provided by a server.

DDR SDRAM
(Double Data Rate Synchronous Dynamic Random Access Memory)

DRAM is a memory type whose cells consist of a capacitor and transistor manufactured at a low price. SDRAM is a memory type whose performance has been improved by synchronizing the clock with the external CPU clock. DDR SDRAM is a memory type whose performance has been improved by doubling the operating speed of the SDRAM and is widely used nowadays. This computer uses DDR SDRAM.

Device Manager

An administrative tool used to manage computer devices. You can add or remove hardware or update a device driver using the Device Manager.

DHCP (Dynamic Host Configuration Protocol)

This refers to automatically allocating IP addresses to the users on the network by the network administrators.

Direct X

An application interface developed to enable Windows application programs to access hardware devices at a very high speed. Since the operating speed of graphics, memory and sound cards must be very fast to provide high quality video and sound for games, Direct X enables faster control and interaction between applications and hardware devices. By using Direct X, the multimedia performance of Windows has been hugely improved.

Driver

Software that interacts between the hardware and the operating system. An operating system knows the hardware information and controls the hardware. In general, a driver is supplied with the corresponding hardware device.

D-sub (D-subminiature)

This is the cable connecting a general CRT monitor and the computer. Analog video is output through this cable.

DVD (Digital Versatile Disk)

DVD was developed to replace CD (compact disk). Although the shape and size of the disc are the same as that of a CD, the capacity of a DVD is at least 4.7GB while the capacity of a CD is 600MB. DVD video is digital unlike VHS (analog) video and supports MPEG2 compression and digital audio. To play a DVD, a DVD drive is required.

Firewall

A security system used to protect an internal network or intranet from external networks through an authentication procedure.

HDMI

This is a digital video / audio interface specification that transmits video and audio signals over a single cable.

Hibernation Mode

A power mode that saves all data in memory to the hard disk and turns the CPU and hard disk off. When canceling Hibernation Mode, all application programs that were running are restored to their last state.

Icon

This refers to a small image that represents a file that users can use.

IEEE802.XX

This is a set fo specifications developed by the 802 committee of IEEE for the LAN connection method called XX.

LAN (Local Area Network)

A communications network connecting computers, printers and other devices within a local area such as within a building. A LAN enables all connected devices to interact with other devices on the network. The current LAN uses the Ethernet media access control method developed in the early 1980s. To connect to an Ethernet, a network card called a LAN card, Ethernet card or network interface card is required. To exchange data between computers, a protocol is required besides the hardware equipment. Windows uses TCP/IP as the default protocol.

LCD (Liquid Crystal Display)

There are Passive Matrix and Active Matrix LCD types. This computer uses the Active Matrix type LCD called a TFT LCD. Since an LCD is implemented by transistors instead of a cathode-ray tube unlike a CRT, its size can be slim. And because it does not blink, it reduces eye strain.

Network

A group of computers and devices, such as printers and scanners, connected by a communications link. A network can be either small or large and can be connected permanently through cables or temporarily through telephone lines or wireless links. The biggest network is the Internet, a worldwide network.

Network Administrator

A user who plans, configures and manages network operations. Sometimes, a network administrator is called a system administrator.

Notification Area

This refers to the right area of the Taskbar including program icons such as the volume control, the power options and the time.

Partition

This refers to the act or practice of dividing the storage space of a hard disk drive into separate data areas known as partitions. If a 100GB hard disk drive is partitioned into 2 x 50GB partitions, the hard disk drive can be used as if there are 2 hard disk drives.

PCMCIA(Personal Computer Memory Card International Association) card

This is an extended card slot specification for mobile computers such as a notebook computer. Not only a memory, device but also most peripherals such as hard disk drives, LAN cards, etc. can be connected to this card slot.

Protocol

A protocol is a set of rules used by computers to communicate with each other across a network. A protocol is a convention or standard that controls or enables the connection, communication, and data transfer between computing endpoints. It defines the data transmission procedures and the transmission medium for more efficient network functions.

Quick Launch

This refers to a toolbar that can be configured so that you can launch a program such as Internet Explorer or display the Windows Desktop with one click. You can add any icon to the quick launch area of the Taskbar and launch frequently used program by clicking that icon.

SDHC (Secure Digital High Capacity) card

This is the extension of the SD card that supports over 2GB bytes.

Server

In general, a server refers to a computer that provides shared resources for network users.

Share

This refers to setting a resource of a computer such as a folder or printer so that other users can also use it.

Shared Folder

A folder that can be used by other users on the network.

Sleep Mode

A power mode that enables computers to save power consumption when they are not being used. When a computer is in Sleep Mode, the data on the computer memory is not saved to the hard disk. If the power is turned off, the data in memory will be lost.

System File

System Files refer to files that are read and used by the Windows operating system. In general, system files must not be deleted or moved.

TCP/IPv4

This is a 4 byte (32 bit) address system separated into each byte (8 bits) by a dot and each byte is represented as a decimal number.

USB (Universal Serial Bus)

This refers to a serial interface standard developed to replace the conventional interface standards such as Serial and PS/2.

The data transmission specifications are one of the interface standards used to connect a computer to peripheral devices. These specifications include USB 1.0, 1.1, 2.0 and 3.0.

It is appropriate to support peripheral devices that require high data rates such as an AV device, secondary HDD or CD-RW. The higher the version (e.g. USB 3.0), the higher the data rate provided.

Windows Media Player

A multimedia program included with Windows. Using this program, you can play a media file, create an audio CD, listen to a radio broadcast, search and manage media files, and copy files to a portable device, etc.

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